

**EGLIN AIR FORCE BASE
Florida**

**FINAL
ENVIRONMENTAL ASSESSMENT
FOR UTILITY EASEMENT AND
INSTALLATION OF A WATER
LINE EGLIN AIR FORCE BASE,
FLORIDA**



February 2003

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FINDING OF NO SIGNIFICANT IMPACT
AND
FINDING OF NO PRACTICABLE ALTERNATIVE
FOR
A Utility Easement and Installation of a Waterline, Eglin AFB, Florida
RCS 02-002

Pursuant to the President's Council on Environmental Quality regulations for implementing the procedural provisions of the National Environmental Policy Act promulgated at 40 Code of Federal Regulations 1500-1508 (40 CFR 1500-1508), and the Department of the Air Force's (AF) Environmental Impact Analysis Process (EIAP) rules at 32 CFR 989, the AF has conducted an Environmental Assessment (EA) of the probable environmental consequences for granting an easement for, and installation of, an Okaloosa County water pipeline on Hurlburt Field, Eglin Air Force Base (AFB), Florida. This document serves as both a Finding of No Significant Impact (FONSI) and Finding of No Practicable Alternative (FONPA). The FONPA is required by Executive Order (EO) 11988, Floodplain Management, and EO 11990, Protection of Wetlands. Small portions of the Proposed Action will occur within wetlands or a FEMA-designated 100-year floodplain.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Proposed Action: Eglin AFB's 96 CEG/CERR Real Estate Office proposes to grant a new easement to Okaloosa County for the purpose of installing a water pipeline within an east-west corridor from Mary Esther, Florida, to Florosa, Florida. The proposed easement would be 30 feet in width and approximately 3.5 miles in length and would traverse Hurlburt Field within the cantonment area. The 30-foot width of the easement would be sufficient to allow for future maintenance. The pipeline would be placed in a cut ditch approximately 5 feet in depth along roadways, cleared areas, in uplands, and in previously disturbed areas. Wetlands and drainage ditches would be avoided by directionally boring the pipeline at a depth of nearly 25 feet underground. A "jack and bore" process similar to directional boring would be employed wherever the pipeline must cross an existing roadway. The pipeline would run from a pump station in Florosa eastward along U.S. Highway (HWY) 98 crossing under culverts and roadways for about 1.5 miles. The pipeline would then head northeast along existing roadways and utility easements, through the Permanent Exercise Facility (PEF) area along the eastern boundary of Hurlburt Field, to the new Defense Access Road (DAR), at which point it would follow the new DAR through the new East Gate, turning east and running along a newly established county-constructed access roadway to Martin Luther King Boulevard.

Alternatives: A longer alternative route was identified but determined not to be practical because of economic, traffic, and private ownership issues and, therefore, it was not carried forward for analysis. The No-Action alternative, i.e., not granting an easement and thereby not allowing pipeline construction, was the only alternative analyzed in the EA.

SUMMARY OF THE ANTICIPATED ENVIRONMENTAL EFFECTS

Utilities: Gas, communication, and water/sewer utility lines have been identified in close proximity to the project area throughout the length of the easement. Coordination with utility owners is required prior to excavation. With proper coordination documented on AF Form 103, Base Civil Engineering Work Clearance Request, adverse impacts are unlikely. No unexploded ordnance issues have been identified.

Soils: Construction Best Management Practices (BMPs) would be implemented during pipeline installation to minimize soil erosion near wetlands and drainage areas. These include silt fencing, weed-free hay bale filters, weed-free reseeded of disturbed ground with native grasses, and the cleaning of equipment prior to entering federal property. These BMPs also serve to prevent the introduction and spread of invasive plant species on Eglin AFB. With implementation of these BMPs, adverse impacts are unlikely.

Wetlands and Floodplain: Impacts to jurisdictional wetlands would be avoided through the use of directional boring. Where floodplain and wetlands overlap, directional boring would also avoid floodplain impacts. Other areas of floodplain would be disturbed by trenching and pipeline placement, but the total area disturbed would be small and there would be no permanent changes to either topography or floodplain utility. As a result, adverse impacts are unlikely.

Sensitive Species: No protected species have been identified within or adjacent to the project area; however, the project area is suitable habitat for the gopher tortoise, a species of special concern in Florida. The gopher tortoise has been found in this area in the past and a gopher tortoise survey will be required prior to project initiation. Any tortoises identified would be relocated or otherwise protected as determined in coordination with Eglin AFB natural resources personnel. As a result, no adverse impacts are anticipated.

Hurlburt Field personnel have identified landscaped areas along the south side of HWY 98 which require protection. In these areas the pipeline must be placed outside the drip-line of trees and directional boring will be restricted to protect shallow tree roots. Adverse impacts are unlikely with these controls.

A recent site visit found no indication that the federally endangered red-cockaded woodpecker (RCW) has inhabited this area for several years. Additionally, during establishment of the PEF facility in 1995, the US Fish and Wildlife Service (USFWS) relieved Hurlburt Field from future consultation requirements for RCWs in the PEF area due to absence of the species, deterioration of habitat, and isolation of this habitat from known RCW populations. As a result, the Proposed Action did not require USFWS consultation with regard to RCWs and no adverse impacts to the RCW will occur.

Cultural Resources: Project activities would not infringe upon identified cultural resource areas. A cultural resource site is located near the southeast crossover of HWY 98, but it is ineligible for listing on the National Register and does not require State Historic Preservation Officer consultation. Nevertheless, the presence of a cultural resources representative from Hurlburt Field will be required to monitor excavation in this area.

PRACTICABLE ALTERNATIVES

Executive Orders 11988 and 11990 require Federal agencies that propose to conduct activities within either a 100-year floodplain or a wetland to consider alternatives to the action and/or modify its actions, to the extent practicable, to avoid adverse impacts to floodplains and wetlands. Construction of the pipeline through floodplain and wetland areas is necessary in order to provide the most direct and feasible route through Hurlburt Field. Although alternative routes were considered this route was selected because it moves along previously disturbed areas, roadways, and utility easements, thereby minimizing the potential for adverse environmental impacts. The total area disturbed would be minimal and would not result in changes to topography or to the utility of these areas. This action was designed to avoid and/or minimize, to the extent possible, potential harm to the environment.

MANAGEMENT REQUIREMENTS

Okaloosa County must adhere to the following management requirements to ensure protection of the environment. Requirements not already established by project design, state or federal regulation, or base policy, will be specified in the easement.

An approved Base Civil Engineering Work Clearance Request, AF Form 103, will be required prior to start of work within the proposed easement corridor.

Coordination with utility owners will be required prior to excavation.

Okaloosa County will be required to implement BMPs to minimize soil erosion near wetlands and drainage areas, and all disturbed ground is to be reseeded with native grasses.

Impacts to wetland areas will be avoided through the use of directional boring.

A gopher tortoise survey will be required prior to project initiation. Any tortoises identified would be relocated or otherwise protected as determined in coordination with Eglin AFB natural resources personnel.

Pipeline installation along the south side of U.S. HWY 98 must be conducted outside the drip-line of landscape trees identified by Hurlburt Field natural resources personnel. Pre-construction coordination with the Hurlburt Field Civil Engineering Squadron Environmental Flight (16 CES/CEV) is required.

Pre-construction coordination with Hurlburt Field cultural resources personnel is also required. A Hurlburt Field representative will monitor construction in the vicinity of the cultural resource site located near the southeast crossover of U.S. HWY 98.

PUBLIC NOTICE


A public notice was published in the *Northwest Florida Daily News* on 29 Oct 02 inviting the public to review and comment upon the EA. The public comment period closed on 12 Nov 02. No comments were received.

FINDING OF NO SIGNIFICANT IMPACT

Based on my review of the facts and the environmental analysis as summarized above, I conclude that the proposed Okaloosa County pipeline and easement on Hurlburt Field, Eglin AFB, will not create significant adverse impacts to the quality of the human or natural environment. This analysis fulfills the requirements of the National Environmental Policy Act, the Council on Environmental Quality's implementing regulations, and the Air Force Environmental Impact Analysis Process, and an environmental impact statement is not required and will not be prepared.

FINDING OF NO PRACTICABLE ALTERNATIVE

Pursuant to Executive Order (EO) 11988, Floodplain Management; EO 11990, Protection of Wetlands; the authority delegated by Secretary of the Air Force Order 791.1; and taking the above information into consideration, I find there is no practicable alternative to the Proposed Action and that the Proposed Action includes all practicable measures to minimize harm to the environment.


CHARLES H. COOLIDGE, JR.
Lieutenant General, USAF
Vice Commander, AFMC

9 August 2003
Date

**FINAL
ENVIRONMENTAL ASSESSMENT
FOR UTILITY EASEMENT AND
INSTALLATION OF A WATER LINE
EGLIN AIR FORCE BASE, FLORIDA**

(RCS 02-002)

**DEPARTMENT OF THE AIR FORCE
Eglin Air Force Base, Florida**

February 2003

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LIST OF ACRONYMS AND ABBREVIATIONS

16 CES/CEV	Natural Resources Manager; Environmental Flight Hurlburt Field
16 SOW	16 th Special Operations Wing
46TW	46 th Test Wing
96 AMDS/SGPB	Bioenvironmental Engineering Flight
96 CEG/CERR	96 th Civil Engineering Group, Real Estate Office
96 CEG/CERX	96 th Civil Engineering Group, Long Range Plans
AAC	Air Armament Center
AAC/EMC	Air Armament Center/Environmental Management Directorate, Compliance Division
AAC/EMCE	Air Armament Center/ Environmental Management Directorate, Environmental Engineering
AAC/EMH	Air Armament Center/Environmental Management Directorate, , Cultural Resources Division
AAC/EM-PAV	Air Armament Center/Environmental Public Affairs
AAC/EMR	Air Armament Center/Environmental Management Directorate, Restoration Division
AAC/EMSH	Cultural Resources Branch, Stewardship Division of Environmental Management Directorate
AAC/EMSN	Natural Resources Branch, Stewardship Division of Environmental Management Directorate
AAC/EMSP	Air Armament Center/Environmental Management Directorate, Environmental Analysis Branch
AAC/JAV	Air Armament Center/Legal
AAC/SEOG	Air Armament Center/Safety
AAC/SEU	Air Armament Center/Range Safety
AFB	Air Force Base
AFOSH	Air Force Occupational Safety and Health
AFSOC	Air Force Special Operations Command
BMP	Best Management Practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EO	Executive Order
ESA	Endangered Species Act
FDEP	Florida Department of Environmental Protection
FEMA	Federal Emergency Management Agency
FFWCC	Florida Fish and Wildlife Conservation Commission
FONPA	Finding of No Practicable Alternative
FR	Federal Register
GIS	Geographic Information System
INRMP	Integrated Natural Resources Management Plan
IRP	Installation Restoration Program
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NWFWMD	Northwest Florida Water Management District
PEF	Permanent Exercise Facility
RCRA	Resource Conservation Recovery Act
RCW	Red-cockaded Woodpecker
SHPO	State Historic Preservation Office
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WRCA	Water Resource Caution Area

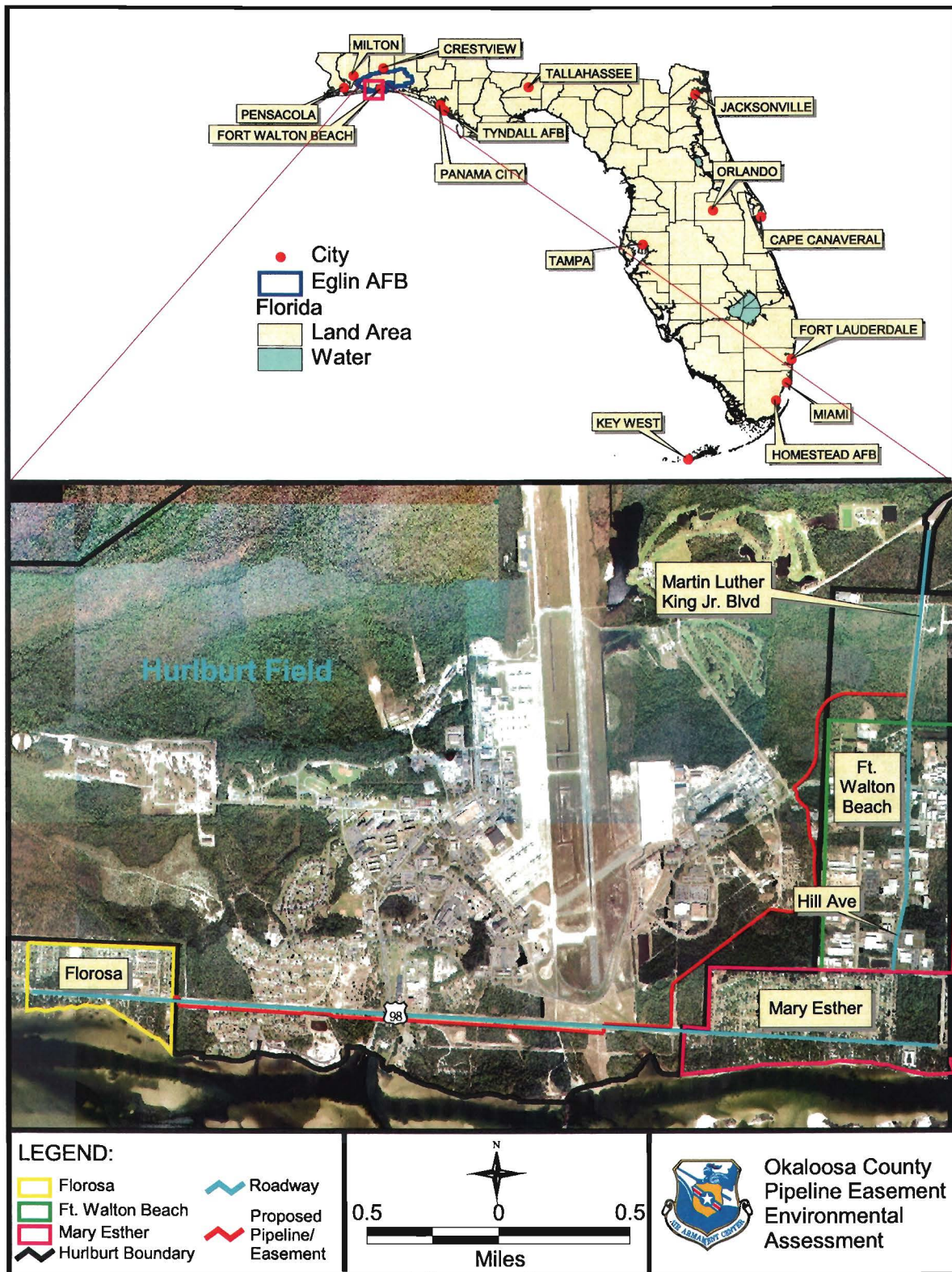


Figure 1-1. Location of Proposed Action

1. PURPOSE AND NEED FOR ACTION

1.1 PROPOSED ACTION

The proponent organization, the 96 CEG/CERR Real Estate Office, proposes to grant a new easement to Okaloosa County for the purpose of installing a water pipeline within an east-west corridor from Mary Esther, Florida, to Florosa, Florida. The proposed easement would be 30 feet in width and approximately 3.5 miles in length. A portion of the easement and pipeline installation would traverse Hurlburt Field within the cantonment area. The 30-foot width of the easement would be a sufficient width to allow for future maintenance as well as installation of the pipeline.

The pipeline (and associated easement) shown in Figure 1-1 would mainly run along existing roadways and cleared utility right-of-ways through Hurlburt Field, connecting water lines from a pump station in Florosa to a water line running north-south along Martin Luther King Boulevard in Mary Esther.

1.2 NEED FOR PROPOSED ACTION

According to the 1998 Northwest Florida Water Management District (NFWFMD) district water supply assessment for Okaloosa, Santa Rosa, and Walton counties, the existing and anticipated water resources are not sufficient to meet the future requirements of existing users for projected 2020 demands. Currently, Southern Okaloosa County utilizes the Upper Floridan Aquifer for its water supply. Because the aquifer utilized by these areas is mostly confined, increases in water use affect aquifer water levels, as well as water quality. Increasing population in Southern Okaloosa County has contributed to regional declines in the potentiometric surface (upper limit) of the Upper Floridan Aquifer by as much as 160 feet since 1940 (Barr, et al., 1985). The consequences affect availability of future water supplies. As of 1995, the potentiometric surface in Fort Walton Beach is approximately 110 feet below sea level. This is a loss of about 160 feet from predevelopment times (NFWFMD, 1998). The NFWFMD admits that while no serious problems have occurred aside from scattered cases, the potential for long-term impacts is certain. As a result, due to existing and anticipated water supply problems, the Governing Board of the NFWFMD has designated the coastal area of Santa Rosa, Okaloosa, and Walton counties as Water Resource Caution Areas (WRCAs).

A WRCA designation results in the application of more stringent water quality standards to those areas, and requires all non-exempt withdrawals to undergo more stringent assessments to determine negative impacts to the resource. These areas also have increased requirements in the areas of reporting, implementing conservation measures, and improving water use efficiencies. They must perform evaluations of the feasibility of using reclaimed water as well as assessments of the economic, environmental, and technical aspects. Finally, the coastal areas of Okaloosa, Santa Rosa, and Walton counties are also prohibited from using the Floridan Aquifer for non-potable purposes (NFWFMD, 1998).

As a result of WRCA requirements, and in cooperation with the NFWFMD regional water supply plan, the need for the proposed pipeline stems from the need to adequately meet the water supply demand for the southern portion of the county. The proposed pipeline through Hurlburt Field is part of a larger project involving the installation of a water pipeline running from the Crestview area in the northern portion of the county to the southern portion. This would meet the water demand of the southern portion of Okaloosa County, while at the same time conserving those water resources still present in the southern portion of the county.

1.3 OBJECTIVES OF PROPOSED ACTION

The objective of the Proposed Action is to construct a water pipeline from Florosa, Florida, to Mary Esther, Florida, within a newly established easement through Hurlburt Field in order to allow for the delivery of potable water to these areas in accordance with the NFWFMD regional water supply plan.

1.4 RELATED ENVIRONMENTAL DOCUMENTS

Environmental Assessment for the Defense Access Road: Realign/Relocate Lovejoy Road/East Gate, Hurlburt Field, Florida. December 1998. (U.S. Air Force, 1998)

Permanent Exercise Facility Environmental Assessment, Hurlburt Field, Florida, April 1995. (U.S. Air Force, 1995)

1.5 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

This document was prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality (CEQ) regulations of 1978, and 32 CFR Part 989. To initiate the environmental analysis, the proponent (96 CEG/CERR) submitted an Air Force Form 813 – Request for Environmental Impact Analysis – to the Air Armament Center/Environmental Management Directorate, Stewardship Division, Environmental Analysis Branch (AAC/EMSP). A review of the AF Form 813 by EMSP determined that the Environmental Impact Analysis Process (EIAP) Working Group should address the Proposed Action. The Working Group consists of representatives of the Environmental Analysis (AAC/EMSP), Environmental Engineering (AAC/EMCE), Natural Resources (AAC/EMSN), Historic Preservation Division (AAC/EMH), Bioenvironmental Engineering Flight (96 AMDS/SGPB), Legal (AAC/JAV), Safety (AAC/SEOG), Civil Engineer (96 CEG/CERX), Environmental Public Affairs (AAC/EM-PAV), and Safety Office (AAC/SEU) functions at Eglin AFB. It should be noted here that the portion of the water line within Hurlburt Field's boundary represents only a small portion of the project in its entirety (installing a water line from the northern portion to the southern portion of the county), and that activities associated with the project extend beyond the boundaries of Hurlburt Field. These activities, if occurring on Eglin AFB property, will be, or have been, addressed during the EIAP. However, the scope of this NEPA document is focused on the activities occurring within Hurlburt Field and does not address activities outside the Hurlburt Field boundary.

1.5.1 Issues Eliminated from Detailed Analysis**Noise**

Noise associated with this project would result from the use of augers, ditch-digging and vegetation-clearing equipment. This equipment would be used within Hurlburt property and along U.S. Highway 98, which are high volume traffic areas and experience heavy noise from air and vehicle traffic. Additionally, construction equipment would be used for a short duration and would be intermittent. As a result, noise associated with the use of project-related equipment would not significantly contribute to the existing noise environment. As a result, noise analysis was not conducted for this assessment.

Safety/Restricted Access

All activities associated with pipeline construction would be conducted in accordance with OSHA safety standards. Project activities would not require any road closures or access restrictions. Therefore, further analysis for this issue was not accomplished.

Air Quality

Air emissions associated with this project would result from the use of augers, ditch-digging and vegetation-clearing equipment. This equipment would be used within Hurlburt property and along U.S. Highway 98, both of which are high volume traffic areas and experience heavy air emissions from air and vehicle traffic. Additionally, construction equipment would be used for a short duration and would be intermittent. As a result, air emissions associated with the use of project-related equipment would not significantly contribute to the air emissions in the surrounding area. As a result, air quality analysis was not conducted for this assessment.

Environmental Justice

Environmental justice addresses the potential for a proposed federal action to cause disproportionately high and adverse health effects on minority populations or low-income populations. Since this easement and associated pipeline would run through Hurlburt Field, no minority or low-income communities would be impacted from the Proposed Action. As a result, no further analysis of this issue was accomplished.

Water Quality

The Proposed Action would not involve activities within surface waters, nor would it involve activities that pose potential adverse impacts to groundwater. As a result, impacts to the quality and utility of surface and ground waters are not anticipated, and further analysis was not accomplished. Impacts resulting from potential erosion are analyzed under the Soils Section of this document.

1.5.2 Issues Studied in Detail

Preliminary analysis based on the scope of the proposed action identified the following potential environmental issues warranting detailed analysis.

Land Use

Because the easement and associated pipeline would be placed within close proximity to other existing easements, and due to the fact that other utility lines run through these easements, it is necessary to evaluate potential conflicts during construction. Analysis focuses on identifying, to the extent possible, existing utilities in the area and identifying potential conflicts and procedures for conflict resolution.

Physical Resources

Physical resources are described as the physical environment as it relates to the atmosphere (air quality, climate, and meteorology), geomorphology (landforms, terrain, topography, and soils) geology (underlying land formations), and hydrology (surface and ground waters). Analysis in this area focuses on identifying those resources that would be impacted by the proposed action and the resulting consequences to the quality and utility of those resources.

Soils

Construction of the pipeline may contribute to the erosion potential of soils in the project area. Erosion-prone soils in the project area will be identified and management requirements from minimizing this potential will be identified.

Wetlands

Project engineers have designed the construction of the pipeline to avoid adverse impacts to wetland areas. However, this environmental assessment will identify wetland areas within the project area and establish management requirements in order to ensure that wetland impacts would be avoided.

Biological Resources

Biological resources (plants and animals) and related habitats (foraging and nesting areas) may be directly affected by the proposed action and alternative. Impacts analysis focuses on the potential for actions to directly, physically affect sensitive biological organisms (threatened and endangered species) and the potential for actions to alter/affect the quality and utility of the sensitive habitats (i.e. wetlands and foraging areas) frequented by those species.

Habitat Alteration/Direct Physical Impacts to Sensitive Species

Project-related activities may result in habitat alteration and/or impacts to sensitive or threatened and endangered species. Analysis focuses on quantifying, to the extent possible, habitat alteration (i.e., tree clearing), identify any sensitive species within the project area, analyzing the potential for impacts, and establishing management requirements for the avoidance and/or minimization of identified potential impacts.

Hazardous Materials/Waste

Hazardous materials/waste for the purposes of this document refers to Installation Restoration Program (IRP) and other contaminated sites. Potential impacts are defined as the degree to

which activities under the Proposed Action or alternatives may disturb IRP or other contaminated sites identified within the project area. Analysis will identify potential IRP and other contaminated sites within the project area and the potential for project activities to impact these areas. Management requirements are then established for avoidance and impact minimization.

Cultural Resources

Cultural resources are defined as archaeological areas and historical architectural properties. Potential impacts are identified if activities associated with the Proposed Action or alternatives extend into the boundaries of identified cultural resource areas, resulting in the disturbance of such resources through construction activities such as earth removal. Analysis focuses on identifying potential cultural resource sites within or adjacent to the project area, evaluating the potential for impacts, and establishing management requirements for avoidance and impact minimization.

1.6 APPLICABLE REGULATORY REQUIREMENTS AND COORDINATION

A Phase I Environmental Baseline Study is required for easement establishment. A digging permit is also required prior to project implementation. Within thirty days of digging permit application, all adjacent utility easement holders must be contacted so that they may identify the exact location of underground utility lines prior to digging.

1.7 DOCUMENT ORGANIZATION

This environmental assessment follows the organization established by the Council of Environmental Quality (CEQ) regulations (40 CFR, Parts 1500-1508). This document consists of the following chapters:

- 1.0 Purpose and Need for Action
- 2.0 Description of the Proposed Action and Alternatives
- 3.0 Affected Environment
- 4.0 Environmental Consequences
- 5.0 Plans, Permits, and Management Requirements
- 6.0 List of Preparers
- 7.0 List of Contacts and Correspondence
- 8.0 References

2. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

As required by federal regulation, this Environmental Assessment (EA) addresses the possible environmental impacts of the Proposed Action, including a No-Action Alternative. Section 2.5 provides a summary of the issues and potential impacts associated with the proposed action and no action.

2.1 PROPOSED ACTION

The proponent organization, the 96 CEG/CERR Real Estate Office, proposes to grant a new easement to Okaloosa County for the purpose of installing a water pipeline within an east-west corridor from Mary Esther, Florida, to Florosa, Florida. The proposed easement would be 30 feet in width and approximately 3.5 miles in length. A portion of the easement and pipeline installation would traverse Hurlburt Field within the cantonment area (Figure 2-1).

The pipeline would be a 16-inch line constructed of either PVC or ductile iron, depending on depth under ground. The pipeline would be laid in a cut ditch approximately 5 feet in depth in upland and disturbed areas along existing roadways and cleared areas. Wetland areas and drainage ditches would be directionally bored, meaning that the pipeline would be routed nearly 25 feet underground in these areas. Areas where the pipeline must cross existing roadways would involve a "jack and bore" process, by which the pipeline would be routed underneath the roadway, much like directional boring.

Figure 2-1 shows the pipeline/easement route. The pipeline would run from a pump station in Florosa on the north side of U.S. Highway 98 eastward about 120 feet to the Hurlburt fence line, at which point the easement would begin. At the fence line, the pipeline and associated easement would run south under Highway 98 and again turn eastward along the south side of Highway 98 for nearly 1.5 miles, crossing under culverts and roadways. The pipeline would then head north underneath the highway and turn east once more for about 1,300 feet. At this point, the pipeline would turn north and skirt an existing, cleared power line right-of-way on the west side of East Road for approximately 900 feet, then make a diagonal turn to the northeast and run along an existing, cleared power line right-of-way for approximately 2,600 feet.

At the end of the power line right-of-way, the pipeline/easement would head eastward for approximately 800 feet along existing, cleared vehicle tracks near the Permanent Exercise Facility (PEF) area along the eastern boundary of Hurlburt Field. The pipeline would then turn north, following existing vehicle tracks through a wooded area, cutting corners that are greater than 45-degrees, involving small amounts of tree clearing. This would continue for about 1,500 feet until reaching the gravel parking/loading area for the recycling center, at which point the pipeline would run along the gravel parking lot and roadway of the recycling center for about 600 feet. The pipeline would then turn northwest for about 500 feet along the gravel recycling center access road, cross under Independence Road, and turn east along the north side of Independence Road for about 300 feet.

The pipeline/easement would then head north along the new defense access road and through the new East Gate, turning east and running approximately 3,000 feet along a newly established county-constructed access roadway to Martin Luther King Boulevard.

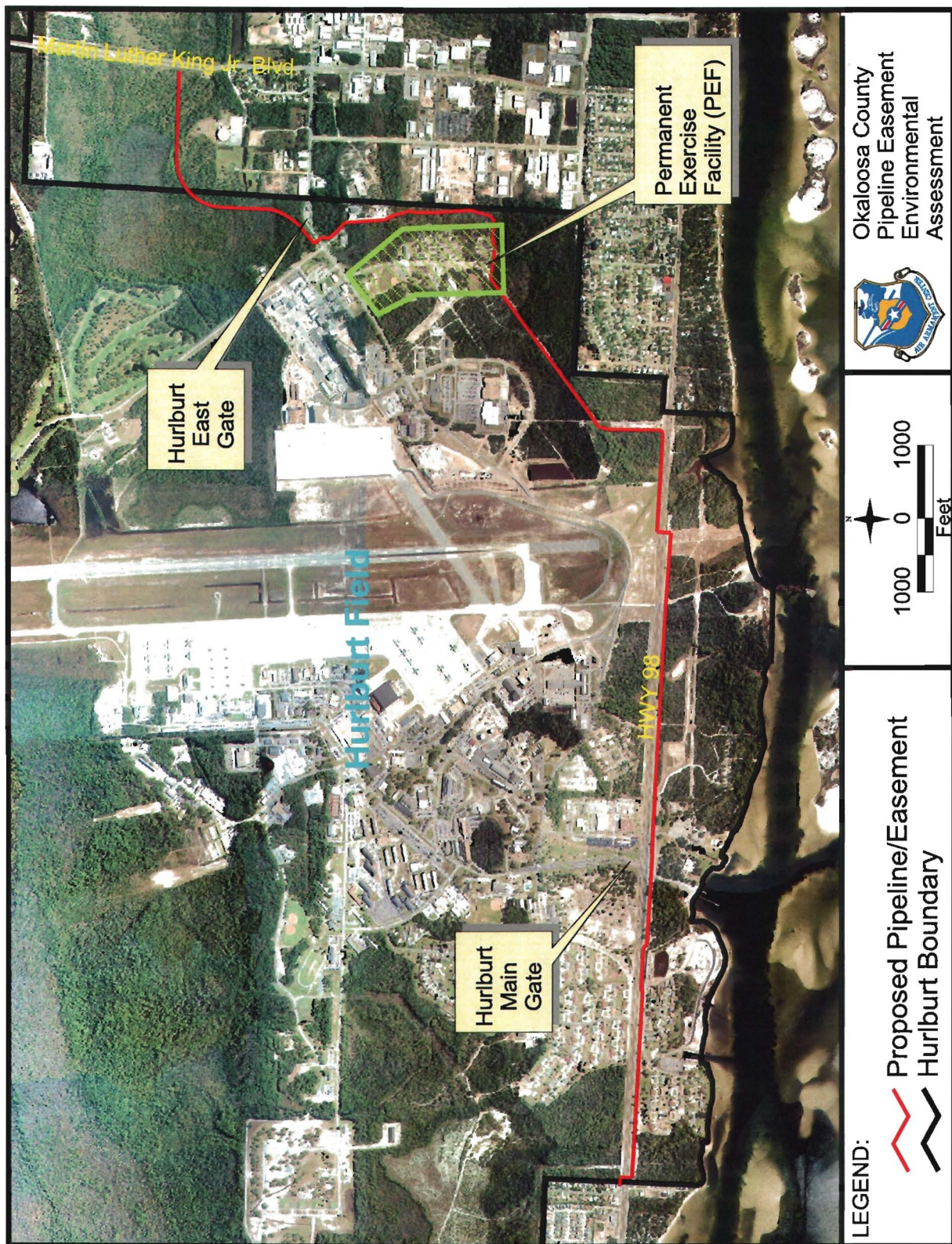


Figure 2-1. Proposed Pipeline/Easement Route

2.2 NO-ACTION ALTERNATIVE

The No-Action Alternative would be to not grant the easement, thereby not allowing for pipeline construction.

2.3 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD

Alternate Pipeline Route – An alternative route for the pipeline was considered, running from the pump station in Florosa eastward along U.S. Highway 98, north at Doolittle Boulevard near the sewage plant in Mary Esther, west along Hollywood Boulevard, and north at Hill Avenue up to Martin Luther King Boulevard. This alternative is a less direct route, resulting in exorbitant economic issues. It does not provide adequate buffer space along Hollywood and Doolittle Boulevards and Hill Avenue, which experience large amounts of traffic congestion on a daily basis, and it has numerous private ownership issues. As a result of these issues, this alternative was not considered as practicable and was not carried forward for analysis.

2.4 COMPARISON OF ALTERNATIVES

Table 2-1. Summary Matrix of Issues, Proposed Action and Alternatives, and Potential Impacts

Issue	Potential Action/Alternative Impacts	
	Proposed Action	No Action
Land Use	Gas, communication, and water/sewer utility lines have been identified in close proximity to the project area throughout the length of the easement. Coordination with utility owners would be required prior to excavation. As a result, adverse impacts are unlikely.	May result in continued depletion of water supplies in southern Okaloosa County. Okaloosa County would need to find an alternative route to establish a water supply connection for southern Okaloosa County
Physical Resources		
Soils	Proper best management practices would be implemented during pipeline installation to minimize soil erosion near wetland areas and drainages. These include silt fencing and hay bales. All disturbed ground would be reseeded with native grasses. Adverse impacts are unlikely.	No Impact
Wetlands	All wetland areas would be avoided through the use of directional boring underneath delineated, jurisdictional wetlands. Adverse impacts are unlikely.	No Impact
Biological Resources		
Habitat Alteration/ Direct Physical Impacts to Sensitive Species	No sensitive species have been identified within or adjacent to the project area. However the Project Area is suitable habitat for the gopher tortoise, and this species has been identified in proximity to the area in the past. As a result, a gopher tortoise survey would be required prior to project initiation. All wetland areas would be avoided through the use of directional boring. Pipeline installation along the south side of U.S. Highway 98 must be conducted outside the drip line of trees identified by Hurlburt Field's natural resources personnel. Adverse impacts are unlikely..	No Impact
Cultural Resources	Project activities would not infringe upon identified cultural resource areas. A cultural resource area is near the southeast crossover of U.S. Highway 98. However, the presence of a cultural resources representative would be required during excavations at the site to identify any potentially disturbed cultural resources.	No Impact
Hazardous Materials/ Waste	For the purposes of this document, hazardous materials/waste refers to contaminated site. No contaminated sites were identified within the project area. As a result, adverse impacts are unlikely..	No Impact

3. AFFECTED ENVIRONMENT

3.1 LAND USE

Hurlburt Field

Hurlburt Field is located in the southwestern portion of Eglin AFB in Okaloosa County, Florida, (Figure 3-1). It is approximately six miles west of Fort Walton Beach, Florida. Hurlburt Field is dissected by U.S. Highway 98, with the airfield and most of the rest of the installation to the north of Highway 98 and family housing and recreational facilities located to the south of Highway 98 along the shore of Santa Rosa Sound. Hurlburt is approximately 6,634 acres in size, with about 550 facilities and more than 7,000 military and civilian employees.

Hurlburt Field is home to the Air Force Special Operations Command (AFSOC). AFSOC is the host command, and its 16th Special Operations Wing, (16 SOW) is the host organization whose primary mission is to organize, train, and equip Air Force special operations forces. Like Eglin AFB, Hurlburt Field requires airfield land use, runway and associated taxiways, aprons, and airfield operations and maintenance facilities.

Utilities

Utilities of concern for the project area are gas, water, sewer, and communication lines. A number of utility lines are present within the project area, as designated by the base's Geographic Information System (GIS) coverages (Figure 3-1) and via a site visit wherein utility markers were identified. Known utilities include gas, water, communications, and sewer.

3.2 PHYSICAL RESOURCES

3.2.1 Soils

Soil formation is an on-going process that is determined by the nature of the parent material and influence of environmental factors such as climate, geology, topography, and vegetation. The majority of soils within the Hurlburt Project Area belong to the Lakeland association and are primarily excessively drained, brownish-yellow sands formed in thick, sandy marine sediments on nearly level to steep uplands. Typically, they have sandy surface layers with sandy subsoils that are more than 80 inches deep. Foxworth, Chipley, and Dorovan-Pamlico soil associations occur in pockets throughout the Project Area. Foxworth soil series consist of deep, moderately well drained, very rapidly permeable soils that are formed in thick deposits of sandy marine or aeolian sediments on broad, nearly level, and gently sloping uplands. The Chipley association usually coincides with a high water table closer to the surface than Foxworth soils, and consists of deep, somewhat poorly drained, rapidly permeable soils. They are found on nearly level to sloping uplands and on nearly level, low ridges on flatwoods. Dorovan-Pamlico series soils are found on nearly level floodplains of large streams and hardwood swamps. These soils are formed from the decomposition of woody and herbaceous plant remains. The high water table in these areas results in frequent to constant inundation (U.S. Department of Agriculture, 1995). The physical and chemical properties of the soil types found throughout the Project Area are given in Table 3-1.

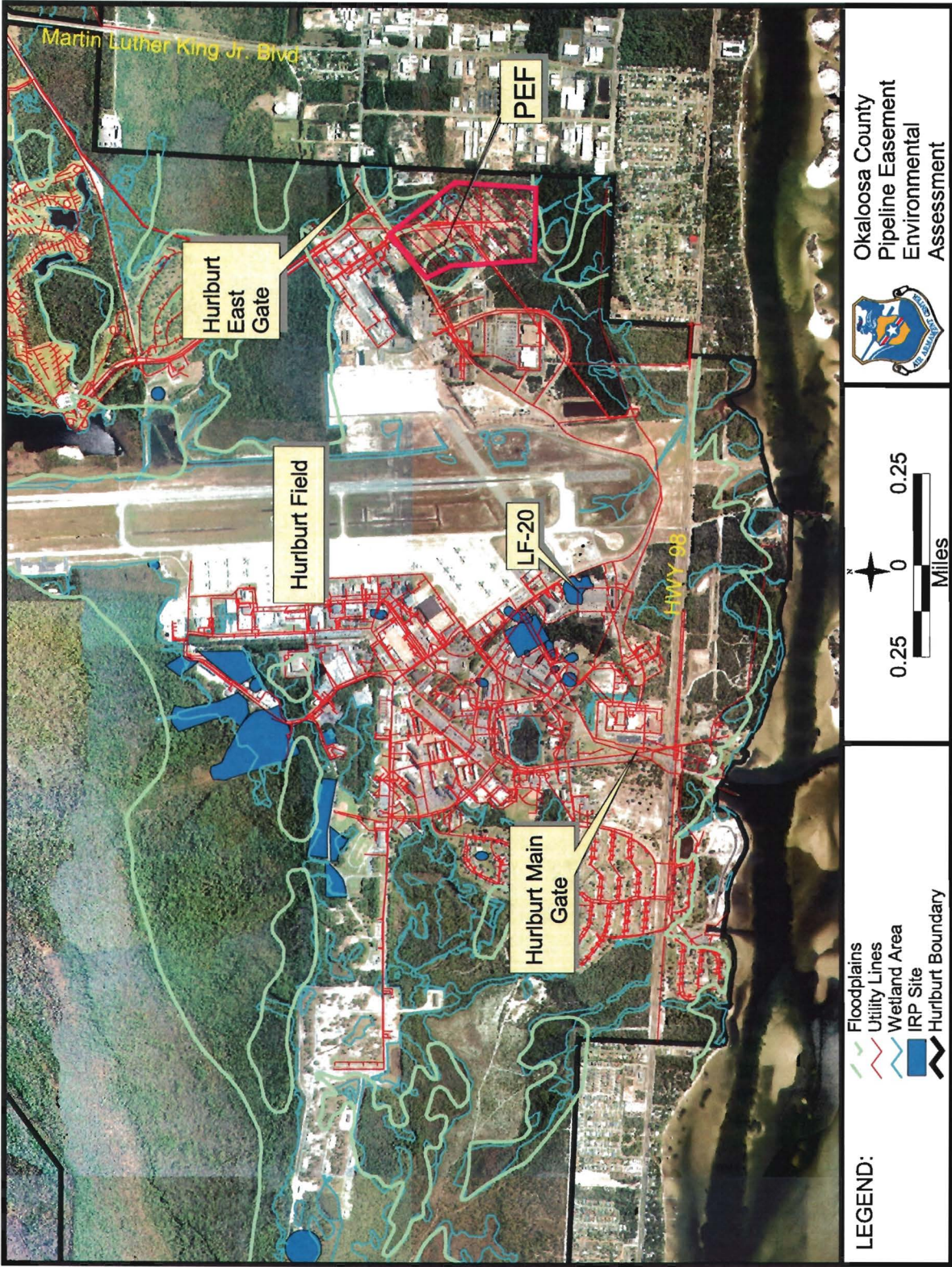


Figure 3-1. Project Area Affected Environment

Table 3-1. Physical and Chemical Data of Project Area Soils

Soil Type	Soil Depth (approx. inches)	Texture	Slope (%)	pH	Cation Exchange Capacity (meq/100g)	Organic Matter (%)	Clay (%)	Permeability (inches/hour)
Lakeland	0 - 40	sand, fine sand	0 - 30	4.5 - 6.0	< 3.47	<1	2 - 8	6.0 - 20
Foxworth	0 - 54	sand, fine sand	0 - 5	4.5 - 6.0	< 2.19	<1	1 - 8	> 20
Chipley	0 - 80	sand, fine sand	0 - 8	3.6 - 6.5	< 2.17	2 - 5	1 - 7	6.0 - 20
Dorovan-Pamlico	0 - 60	muck	< 1	3.6 - 5.5	< 114.02	20 - 60	0	0.6 - 6.0

3.2.2 Hydrology

Hydrological features consist of surface waters (lakes, rivers, streams, and springs) and groundwater (water lying below the land surface). Regional groundwater resources consist of two aquifers (areas where groundwater exists in ample quantities), the Surficial/Sand and Gravel Aquifer and the Floridan Aquifer.

While there are a number of surface waters within and adjacent to the Hurlburt Field boundary, surface water entities in close proximity mainly consist of drainage pathways and small unnamed creeks, as shown in Figure 3-1. The two aquifers located under Hurlburt Field are the Sand and Gravel Aquifer and the Floridan Aquifer. Hurlburt uses only a small amount of water from the Sand and Gravel Aquifer; however, the Floridan Aquifer is used extensively. The Floridan Aquifer is located below the Sand and Gravel Aquifer and extends beneath most of Florida. Rainfall that falls on the land surface rapidly infiltrates the soil profile to recharge the shallow groundwater. The stored groundwater is released slowly to the surface water (NFWFMD, 1998).

Sand and Gravel Aquifer

Water in the Sand and Gravel Aquifer exists in generally unconfined (free water surface or water table conditions) and confined (under pressure) conditions. It is vulnerable to contamination from surface pollutants due to its proximity to the ground surface (NFWFMD, 1998; U.S. Air Force, 1996). Pollutants enter the Sand and Gravel Aquifer by percolating downward through the sandy soils. They then migrate laterally in the groundwater and enter surface waters through base flow that provides most of the water to area streams and creeks. Wildlife habitat and vegetation provided by the streams are affected by the pollutants in the surface water (U.S. Air Force, 1996).

The quality of water in the aquifer has been rated good (i.e., meets its intended use) by the Florida Department of Environmental Protection (FDEP). Raw, untreated water has a pH ranging from 3.0 to 10.2 with an average pH of 4.9 in the upper zone and 7.2 in the lower (production) zone (U.S. Air Force, 1996). Water from this aquifer is not a primary source of

domestic or public supply water on Eglin because of the large quantities of higher quality water available from the underlying Upper Limestone of the Floridan Aquifer (NFWFMD, 1998; U.S. Air Force, 1996).

Contamination of the Sand and Gravel Aquifer has occurred in some areas through past base related activities. Several base IRP sites report various amounts of pesticides, heavy metals, petroleum hydrocarbons and other compounds (U.S. Air Force, 1996).

Floridan Aquifer

Throughout the Eglin reservation, the Floridan Aquifer exists under confined conditions, bounded above and below by the Pensacola Clay confining bed. This clay layer restricts the downward migration of pollutants and restricts saline water from Choctawhatchee Bay and the Gulf of Mexico from entering the Upper Limestone layer of the aquifer. The clay layer of the Bucatunna Formation separates the Upper and Lower Limestone units. Because it is saline, the Lower Limestone unit is not used as a water source (U.S. Air Force, 1996). Groundwater storage and movement in the Upper Limestone layer occurs in interconnected, intergranular pore spaces, small solution fissures, and larger solution channels and cavities. Water quality for raw water drawn from the upper limestone of the Floridan aquifer is of suitable quality for most uses. Water pH ranges between 7.5 and 8.5. Water temperature varies between 18° C and 26° C.

3.3 BIOLOGICAL RESOURCES

Biological resources include the native and introduced terrestrial plants and animals around Eglin AFB. The land areas at Eglin are home to unusually diverse biological resources including several sensitive species, habitats, and wetlands. Eglin and Hurlburt use a classification system based on ecological associations that were developed based on floral, faunal, and geophysical characteristics. These ecological associations are described in the *Integrated Natural Resources Management Plan (INRMP)*, Eglin AFB (U.S. Air Force, 2002).

3.3.1 Ecological Associations

Eglin has seven major ecological associations; however, the Flatwoods (as represented by the forested areas in Figure 3-1) and Wetlands/Riparian (as identified in Figure 3-1) ecological associations are found within the Project Area. Wetland areas are designated as sensitive habitats. Other areas such as the flightline and landscaped areas, as represented by the cleared areas in Figure 3-1), are considered open, disturbed areas.

Flatwoods

This association is characterized by three distinct communities: the Mesic, Wet, and Scrubby Flatwoods (U.S. Air Force, 2001), all of which are found on Hurlburt Field.

The **mesic flatwoods** community is the most prevalent community of the Flatwoods ecological association and is found on relatively flat, moderately to poorly drained, acidic, sandy soils underlain by an organic or clay hardpan. This community is dominated by open-canopied longleaf pine and a dense ground cover including runner oak, saw palmetto, wiregrass, bitter gallberry, St. John's wort, and dwarf wax myrtle.

Wet flatwoods communities are relatively open canopy forests of scattered pines with an understory of dense hydrophytic herbs and shrubs (FNAI, 1994). They occur on poorly drained terrain where soils are similar to those found underlying mesic flatwoods. During the rainy season, water stands for one month or longer on the surface of wet flatwoods communities. Species found here typically include slash pine and sweet bay, along with gallberry, titi, dwarf wax myrtle, and pitcherplants.

The **scrubby flatwoods** plant community is found in slightly elevated areas that are underlain by rapidly drained sandy soil. This community is found mainly in the southwestern portion of the base. It has an open-canopied overstory of longleaf pine, with a middle canopy of scrub oak, saw palmetto, and sparse ground cover.

3.3.2 Sensitive Habitats

Wetlands

The management of Hurlburt Field's sensitive habitats is the responsibility of the 16 CES/CEV Natural Resources Manager. Activities that may affect wetlands (protected by the Clean Water Act (CWA) and Executive Order (EO) 11990) require a permitting process with the state as well as with the U.S. Army Corps of Engineers (USACE). Activities affecting wetlands are to be avoided if possible and the planning process should reduce or minimize ground-disturbing projects or actions occurring in a wetland (U.S. Air Force, 1996). Hurlburt's jurisdictional wetland areas were delineated by the USACE in 1999 and, as shown in Figure 3-1, are located throughout the Project Area. These wetland areas consist of cypress/gum swamps, dome swamps, cypress heads, baygall areas, and drainage ditches along roadways.

Floodplains

Executive Order (EO) 11988, Floodplain Management (1977, 42 FR 26951), requires federal agencies to avoid adverse impacts associated with the occupancy and modification of floodplains and to avoid floodplain development whenever possible. Additionally, EO 11988 requires federal agencies to make every effort to reduce the risk of flood loss, minimize the impact of floods on human health, safety, and welfare, and preserve the natural beneficial value of floodplains.

Additionally, EO 11990, Protection of Wetlands (24 May 1977, 42 FR 26961), places additional requirements on floodplains when considered as wetlands in the EO, which requires federal agencies to avoid undertaking or providing assistance for new construction located in wetlands unless there are no practicable alternatives, and all practicable measures to minimize harm to wetlands have been implemented. It precludes federal entities from leasing space in wetland areas unless there are no practicable alternatives.

Floodplains are lowland areas adjacent to surface water bodies (i.e., lakes, wetlands and rivers) that are periodically covered by water during flooding events. Floodplains carry and store floodwaters during flood events. Floodplains are any areas of land susceptible to inundation by floodwaters from any source. A 100-year floodplain differs in that it is an area adjoining a river, stream, or other waterway that is covered by water in the event of a 100-year flood. A 100-year flood is a flood having a one percent chance of being equaled or exceeded in magnitude in any

given year. The 100-year floodplain is considered a Wetland Resource Area under the Wetlands Protection Act.

Parts of the floodplain that are also considered wetlands will, in addition to floodplain zonings, receive protection from federal, state and local wetland laws. These laws, such as Section 404 of the Clean Water Act, as implemented by the U.S. Army Corps of Engineers Section 404 permitting program, regulate alterations to wetlands to preserve both the amount and integrity of the nation's remaining wetland resources.

There are several areas within the Project Area that fall within the 100-year floodplain on Hurlburt, shown in Figure 3-1. However, in relation to the Proposed Action, the proposed easement would run along existing roadways and the new Defense Access Road north of Independence Road within these floodplain areas. This is further explained in Chapter 4 of this document.

3.3.3 Wildlife

While the Eglin Reservation supports a rich diversity of game and nongame wildlife due to the variety of habitats found on the base, the Project Area on Hurlburt Field is mainly a disturbed area, running along established roadways through the base. Areas that would support wildlife would be within the wooded area along the western side of the Hurlburt boundary and throughout the power line right-of-way east of Hill Road.

The ecological associations associated with these areas may provide habitat for birds, reptiles, amphibians, fish, and mammals. The characterizations provided below are not comprehensive or exclusive listings since the species utilize a variety of communities (U.S. Air Force, 1996).

Flatwoods

Flatwood communities contain stratified forests that provide habitat for many neotropical migrants and other bird species. Mammals include the white-tailed deer, gray fox, bobcat, raccoon, gray squirrel, and flying squirrel. Several bat species also forage here. Reptiles include the black racer, corn snake, cottonmouth, and eastern diamondback rattlesnake. Sensitive animals found in this association include the flatwoods salamander, eastern diamondback rattlesnake, Bachman's sparrow, southeastern American kestrel, red-cockaded woodpecker, black bear, mimic glass lizard, and coal skink (FNAI, 1994).

Wetlands

Wetlands support both aquatic and terrestrial organisms. Large varieties of microbes, vegetation, insects, amphibians, reptiles, birds, fish, and mammals can be found living in concert in wetland ecosystems. Through a combination of high nutrient levels, fluctuations in water depth, and primary productivity of plant life, wetlands provide the base of a complex food web, supporting the feeding and foraging habits of these animals for part of or all of their life cycle. During migration and breeding, many nonresident and transient bird and mammal species also rely on wetlands for food, water, and shelter.

3.3.4 Sensitive Species

An endangered species is one that is in danger of extinction throughout all or a significant portion of its range. A threatened species is any species that is likely to become endangered within the future throughout all or a significant portion of its range due to factors such as loss of habitat and anthropogenic effects. A candidate species is one for which the U.S. Fish and Wildlife Service (USFWS) has on file sufficient information on biological vulnerability to warrant a listing, but the listing is precluded at the present time. Once legally protected, it is a federal offense to "take" (import, export, kill, harm, harass, possess, or remove) protected animals from the wild without a permit. Federal candidate species should be given consideration during planning of projects, but have no protection under the Endangered Species Act. Similar regulations are in place for state-listed species (endangered, threatened, or species of special concern). While these state regulations do not apply on federal lands (Miller, pers. comm., 2001), Eglin, in 1992 along with the USFWS and the Florida Fish and Wildlife Conservation Commission (FFWCC), entered into a cooperative agreement to manage individual species on the installation, including both federal and state listed species

Under 16 USC 1531 to 1544; 1997-Supp; Endangered Species Act 1973 (ESA), federal agencies must ensure that their actions (including permitting) do not jeopardize the continued existence of any endangered or threatened species or destroy or adversely modify the habitat of such species without a permit, and must set up a conservation program. A Section 7 consultation with the USFWS would be required if a take, which is defined as pursuing, molesting or harming a protected species, were to occur. If the proposed action is likely to adversely affect a federally protected species, the USFWS would determine whether jeopardy or non-jeopardy to the species population would occur. As a result, Air Force projects that may affect, either directly or indirectly, federally protected species, species proposed for federal listing, and critical habitat for protected species are subject to Sections 7 and 10 of the Endangered Species Act prior to the irreversible or irretrievable commitment of these resources (U.S. Air Force, 1996). Eglin has developed an overall goal within the *Integrated Natural Resources Management Plan* to continue to protect and maintain populations of native threatened and endangered plant and animal species within the guidelines of ecosystem management (U.S. Air Force, 2002).

The following threatened and endangered species and other sensitive species are known to occur or have occurred within the project area:

Table 3-2. Federal and State Listed Sensitive Species Associated with the Project Area

Federal	
Endangered	
Sensitive Species	Habitat
Red-cockaded woodpecker (<i>Picoides borealis</i>)	Longleaf pine forests over most of Eglin AFB. RCW densities are high near ranges due to the beneficial effect of range fires controlling the underbrush in these areas.
State	
Sensitive Species	Habitat
Gopher tortoise (<i>Gopherus polyphemus</i>)	Primarily found in longleaf pine and xerophytic oak woodlands and open grasslands of the test areas.

Federally listed as endangered and listed in the state of Florida as threatened, the red-cockaded woodpecker (RCW) (*Picoides borealis*) typically inhabits mature, open stands of longleaf pine within the Sandhills ecological association. The RCW does not migrate and maintains year-round territories near nesting and roosting trees (Hooper et al., 1980). Studies by DeLotelle et al. (1987) in central Florida found that RCWs foraged primarily in longleaf pine and pond cypress stands with dense ground cover of broomsedge bluestem (*Andropogon virginicus*). The birds will abandon nest cavities when the understory reaches the height of the cavity entrance.

An RCW cluster typically encompasses about 10 acres with most cavity trees most likely within a 1,500-foot diameter circle. The RCW has shown some preference for mature longleaf pine over other pine species as a cavity tree with the average age of longleaf pines in which new cavities have been excavated being 95 years. Cavity excavation may take several years and may be utilized by generations of birds for more than 50 years (Jackson et al., 1979). The woodpeckers primarily feed on spiders, ants, cockroaches, centipedes, and insect eggs and larvae that are excavated from trees. Dead, dying, and lightning-damaged trees that are infested with insects are a preferred feeding source. The birds also feed on the fruits of black cherry (*Prunus serotina*), southern bayberry (*Myrica cerifera*), and black tupelo (*Nyssa sylvatica*) (Baker, 1974).

A recent site visit indicated the presence of an abandoned red-cockaded woodpecker (RCW) cavity tree within the project area near the PEF (Figure 3-1). Most RCW trees on Hurlburt Field have been inactive for 8-10 years. According to an Environmental Assessment conducted for the construction of the PEF facility in 1996, a finding of "no effect" was made for the RCW in this area due to the lack of active colonies within the project boundary and the lack of an active colony within 0.5 miles of the PEF. Abandoned cavity trees are checked by Hurlburt Field natural resources personnel for recent activity in areas designated for proposed actions (U.S. Air Force, 1996). Additionally, the USFWS has abdicated Hurlburt Field from further consultation for the RCW regarding actions in the PEF area due to the absence of RCWs in the area for several years, deteriorated habitat, the isolation of the habitat from existing RCW populations on Eglin AFB, and the low potential for improvement of the habitat (see Appendix A).

Gopher tortoises (*Gopherus polyphemus*) are part of a habitat that includes almost three dozen species, including the sensitive eastern indigo snake and gopher frog. The species is primarily found in longleaf pine and xerophytic oak woodlands in the Sandhills ecological association, but can also be found in sand pine scrub, live oak hammocks, dry prairies and coastal dunes in the Open Grassland/Shrubland and Barrier Island ecological associations. Many inactive burrows can be found at Eglin, but active burrows are few in number. Experts are concerned about the viability of the base population of this species (Petrick, 1994). Population decline may be a result of illegal harvest (poaching and collection) and loss of fire-dependent habitat. Burrows have been located within the project area in the past, and gopher tortoises found on Hurlburt are typically relocated to relocation sites on Eglin AFB (Pruitt, 2002). However, no active burrows are known to occur on Hurlburt at this time (Pruitt, 2002), and a recent site visit to the area indicated no presence of active gopher tortoise burrows.

The flatwoods salamander, a federally endangered amphibian, was considered in this document due to identified habitat located on Hurlburt Field. However, the salamander is located well outside the project area (~0.25 – 0.5 miles) and was not included as part of the affected environment.

3.4 CULTURAL RESOURCES

The National Historic Preservation Act (NHPA) of 1966, as amended in 1980 and 1992, establishes Federal policy to protect historic sites and values in cooperation with nations, other countries and local governments. Among the provisions of the NHPA are the expansion and maintenance of the National Register of Historic Places (National Register), the appointment of State Historic Preservation Officers (SHPOs), and increased consideration of tribal values. Amendments put forth in 1980 included requiring an inventory of Federal resources and Federal agency programs to protect historic resources. Sections 106 and 110 of the Act primarily guide management of cultural resources lying within the jurisdiction of federal agencies.

Section 106 of the National Historic Preservation Act requires that federal agencies analyze the impacts of federal activities on historic properties. Areas potentially impacted by activities are analyzed as part of the Air Force EIAP. Mitigative measures are developed to minimize impacts. Identifying and assessing cultural resources that would be potentially impacted through this process aids project planners and managers in decision-making for relocation of a project/mission site to avoid delays necessitated by additional investigation and/or consultation.

Past surveys of Hurlburt property have indicated the presence of few archaeological sites on the installation. Survey reports are filed with the Cultural Resources Manager, and nine archaeological sites have been identified within the Hurlburt Field Cultural Resources Management Plan (U.S. Air Force, 2002a). These sites were investigated to determine eligibility for listing on the National Register of Historic Places (NRHP), and five of the nine sites were determined eligible for listing. Three of the nine sites are located near the Project Area, two of which are listed as eligible for the NRHP and are located south of HWY 98 along the shoreline of the sound (U.S. Air Force, 2002a).

Site 8OK380 – Site 8OK380 is a site determined to be eligible for the NRHP in 1984. Shell midden deposits at this site include ceramics, lithics, charcoal, and faunal materials associated with the Deptford, Swift Creek, Weeden Island, and Fort Walton/Pensacola occupations (U.S. Air Force, 2002a).

Site 8OK5 – Designated as eligible for the NRHP in 1998, Site 8OK5 was originally designated as two separate sites in the 1940s and 1950s, which were then combined into a single site in the 1990s. About 40-percent of the site has been previously disturbed due to construction of unimproved roads, utility construction, development of nearby housing, and shoreline erosion. Materials at this site include ceramic and lithic deposits and shell middens of the Weeden Island occupations (U.S. Air Force, 2002a).

Site 8OK474 – This archaeological site was determined as not eligible for listing in the NRHP as the result of past survey investigations (U.S. Air Force, 2002a). No descriptive information on this site was available in the Hurlburt Cultural Resources Management Plan.

These sites are not within project footprints. For protection purposes, the specific locations of the sites cannot be disclosed. However, more information on these sites can be acquired from Hurlburt's cultural resources representative.

3.5 HAZARDOUS MATERIALS/WASTE

According to the Resource Conservation and Recovery Act (RCRA), Section 6903(5), hazardous materials and waste are defined as substances that, because of “quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to increases in mortality or serious illnesses, or pose a substantial threat to human health or the environment. In the context of this document, since no hazardous materials are associated with the actual implementation of the Proposed Action, this section pertains to identification of Installation Restoration Program (IRP) Sites within the Project Area.

The IRP identifies, characterizes, and remediates past environmental contamination on Air Force installations. Although widely accepted at one time, the procedures followed for managing and disposing of wastes resulted in contamination of the environment. The IRP has established a process to evaluate past disposal sites, control the migration of contaminants, identify potential hazards to human health and the environment, and remediate the sites. There are no IRP sites within the Project Area, the closest to the Project Area being approximately 0.25 miles north of the proposed easement (IRP site LF-20, an old landfill).

Unexploded Ordnance

According to Hurlburt personnel, no unexploded ordnance is known to exist within the project area. The project area is within previously disturbed areas that are used for utility routing and have been previously surveyed for unexploded ordnance contamination (Pruitt, 2002).

4. ENVIRONMENTAL CONSEQUENCES

The purpose of this chapter is to analyze the potential impacts of the Proposed Action in relation to the issues and resources identified in Chapters 1 and 3 of this document. Because the Proposed Action occurs over a long corridor, analysis will focus on specific portions of the easement corridor, as shown in six separate views (Figure 4-1). Figures 4-2 through 4-7 provide close-up views of each section of the easement corridor.

Issues

- Land Use
- Physical Resources
 - Soils
 - Wetlands
- Biological Resources
 - Habitat Alteration/Direct Physical Impact
- Cultural Resources
- Hazardous Materials/Waste
- Land Use

Proposed Action

The Proposed Action will take place within the boundary of Hurlburt Field, a mostly “industrialized” area, with heavy human presence. However, project activities would take place along shoulders and right-of-ways along roadways. No traffic stoppage would occur, and no conflicts with motorists or traffic movement would be encountered.

Utility lines have been identified throughout the Project Area, as shown in Figures 4-2 through 4-7. These utility lines consist of water, sewer, gas, and communication transmission lines. While the GIS system provides a reasonable representation of the location of utility lines within the Project Area, these locations are not definitive. As a result, utility owners must be identified through Hurlburt Civil Engineering and notified upon application of the digging permit. Typically, utility owners will conduct a survey within 30 days of permit application and identify the exact location of their transmission lines. Provided the proponent coordinates construction of the pipeline through the easement with utility owners, and present utility lines are avoided, no adverse impacts to present utilities are anticipated.

A benefit associated with pipeline installation would be the addition of fire hydrants along the route of the pipeline, which would aid in firefighting should the need arise.

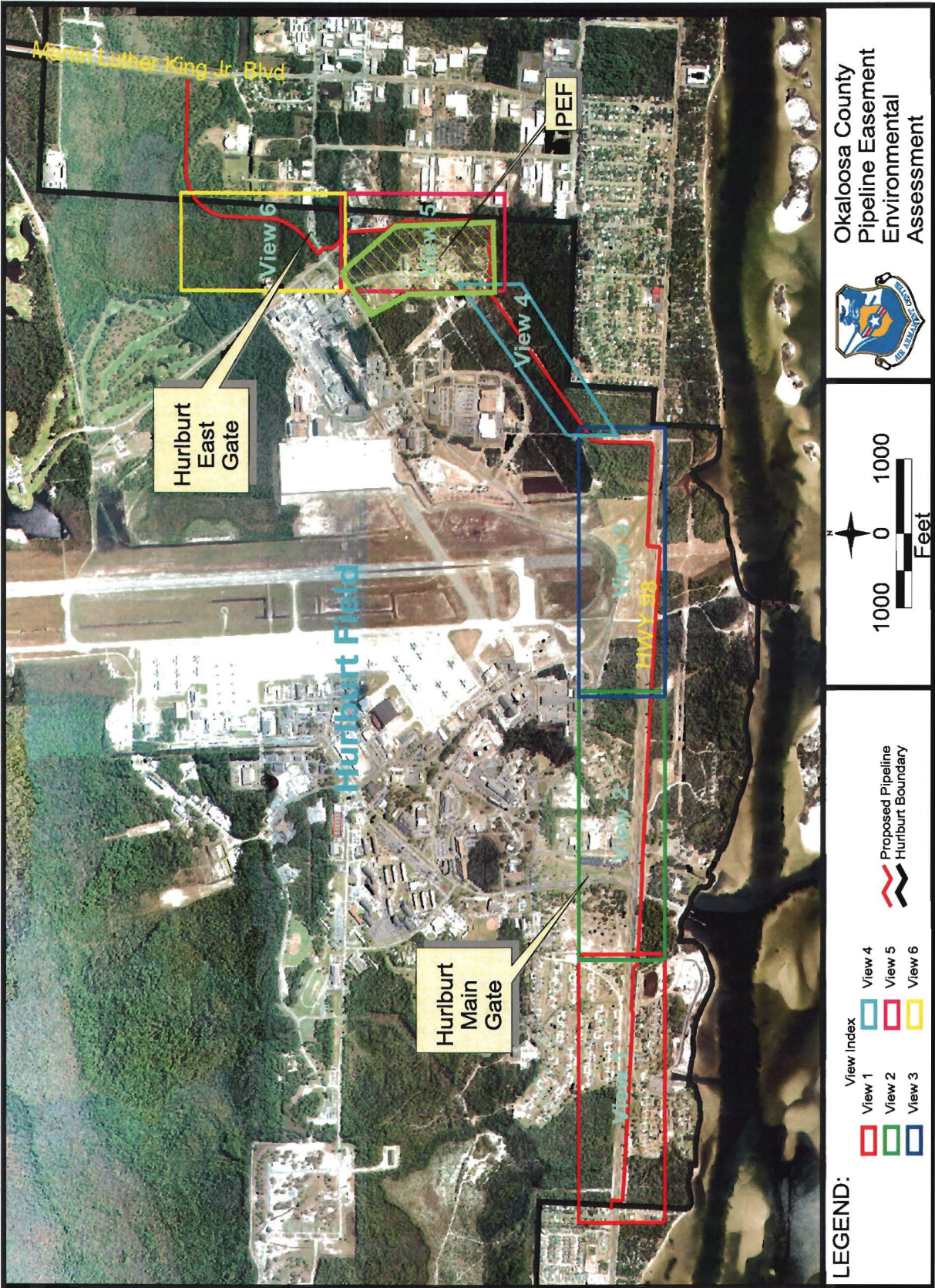


Figure 4-1. View Index for Chapter 4 Maps

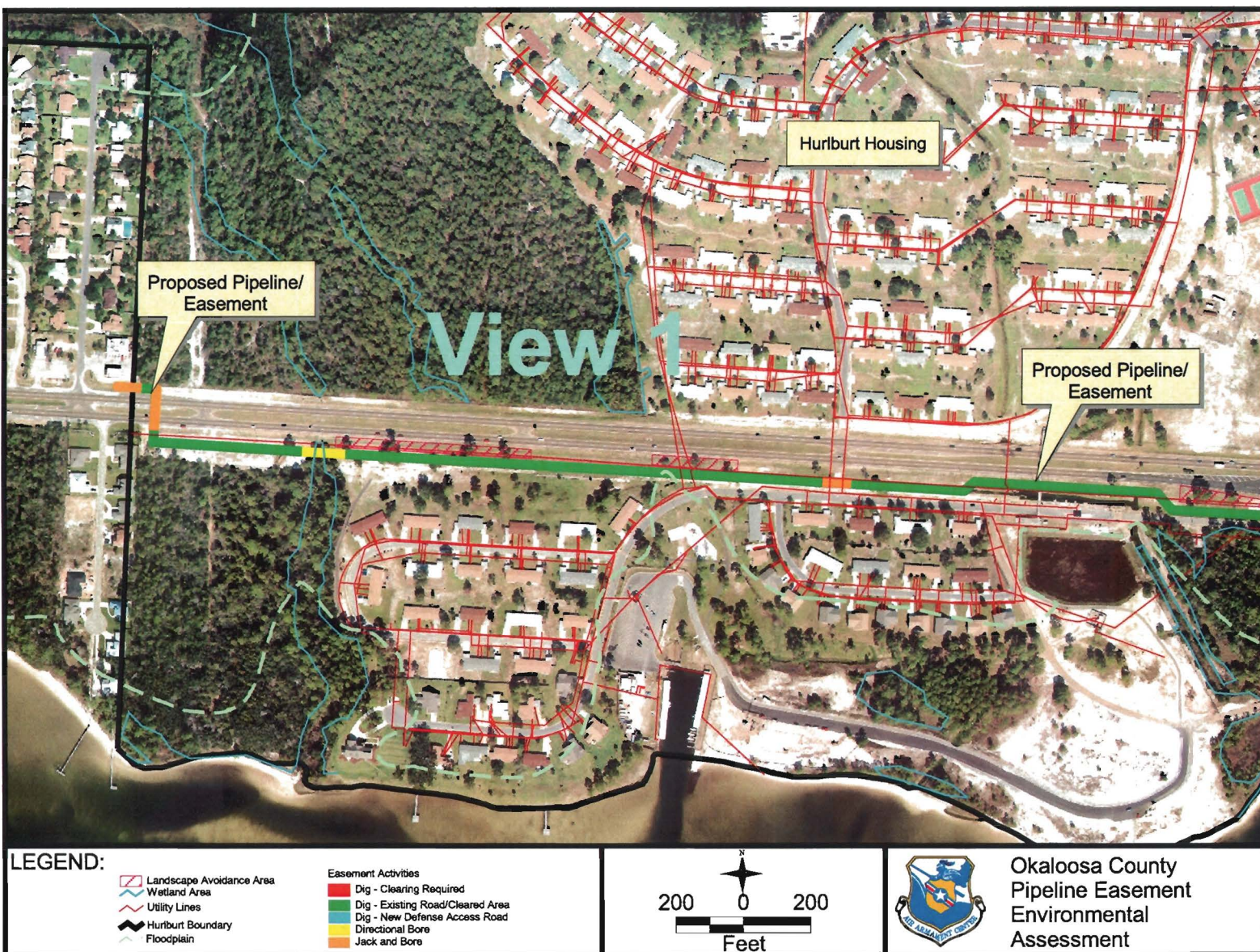


Figure 4-2. Proposed Easement Activities and Areas of Concern (View 1)

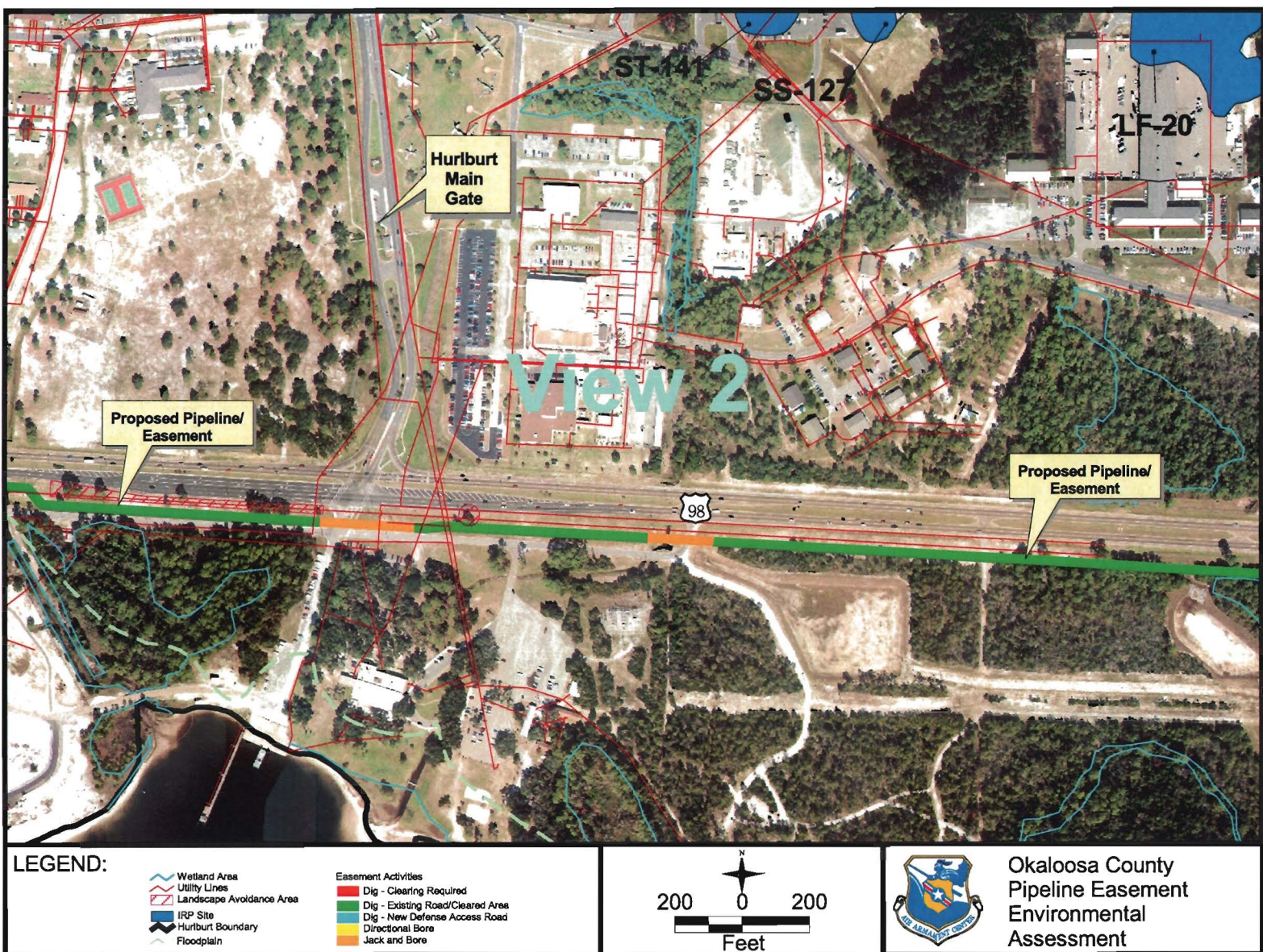


Figure 4-3. Proposed Easement Activities and Areas of Concern (View 2)

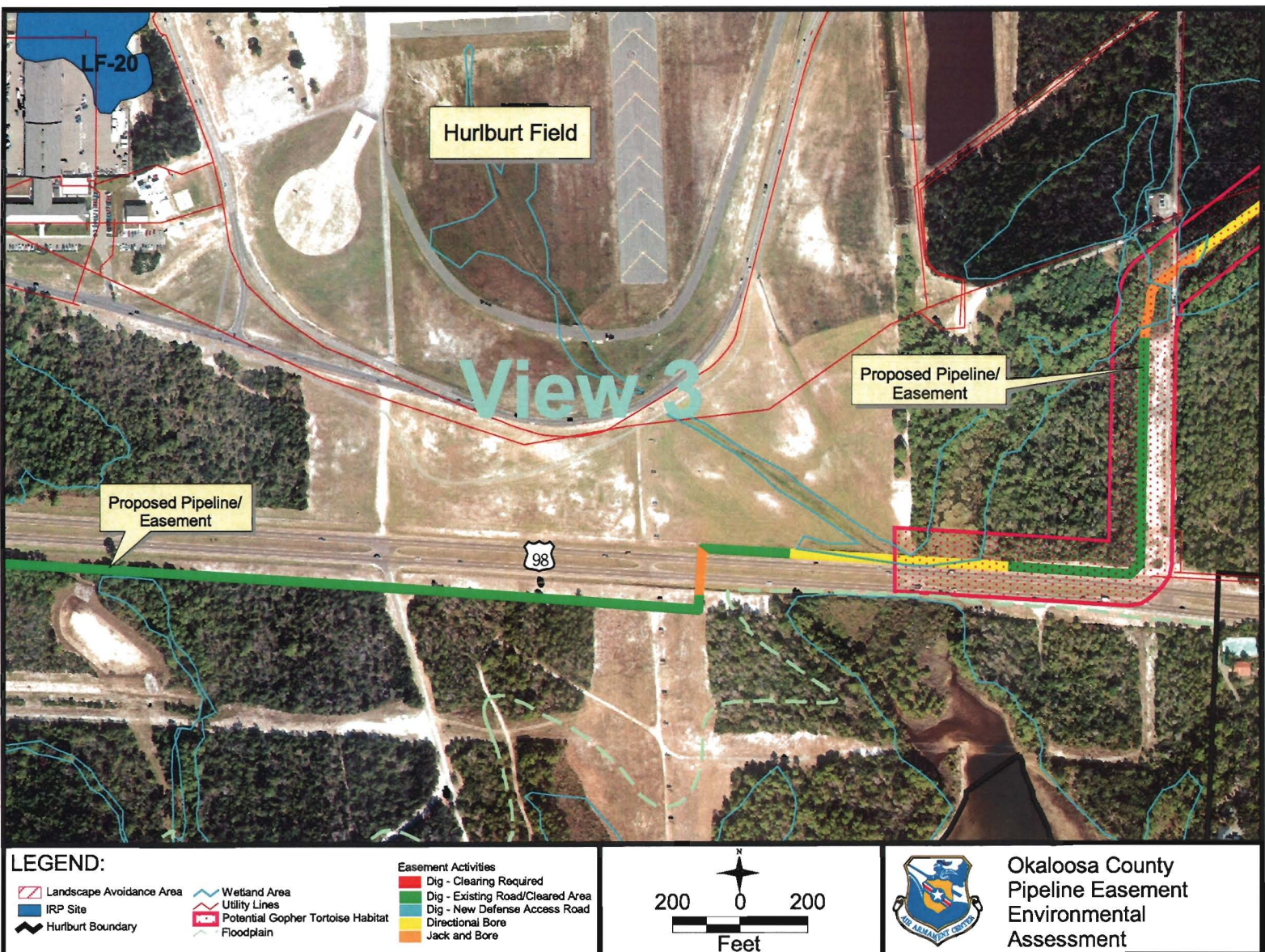


Figure 4-4. Proposed Easement Activities and Areas of Concern (View 3)

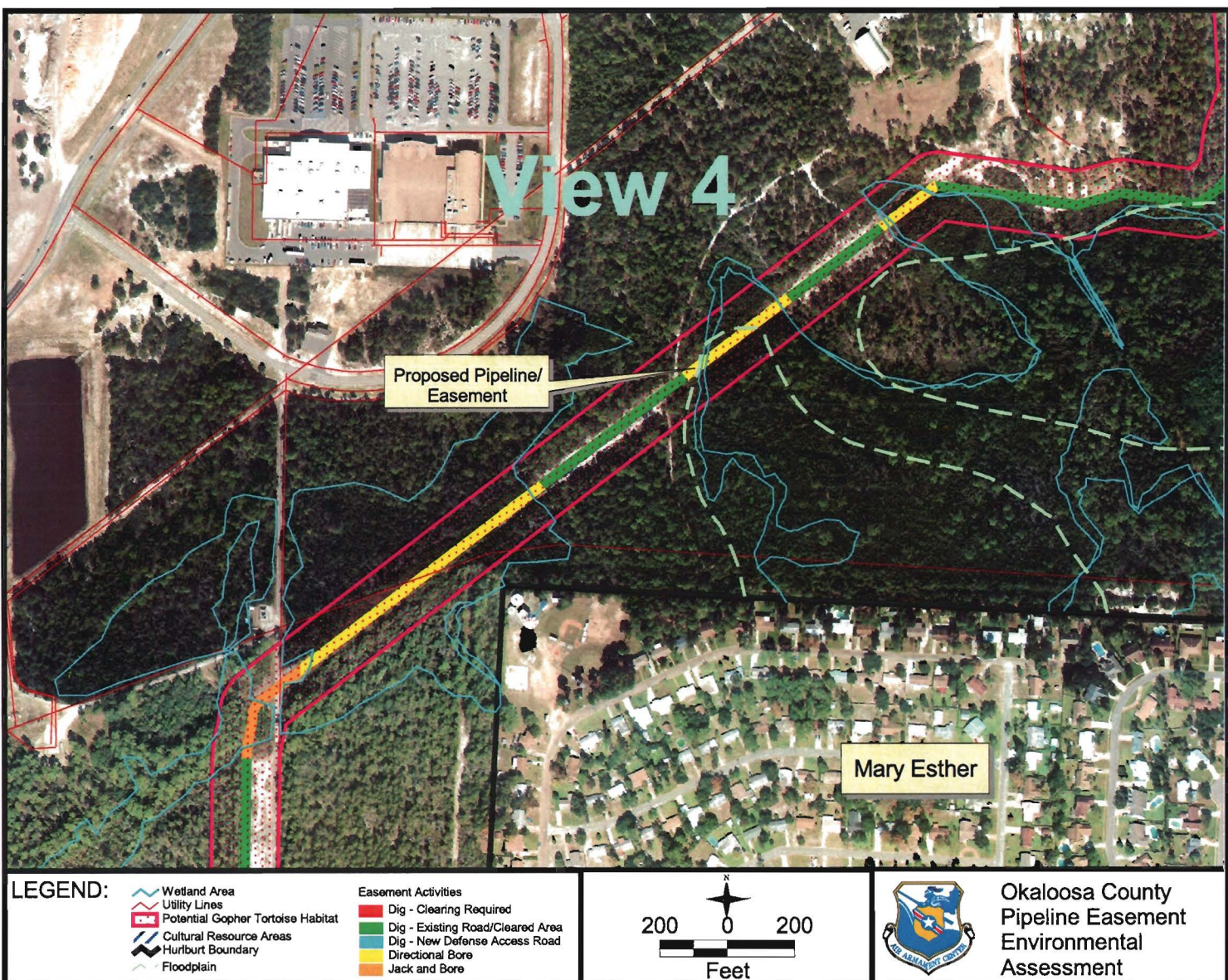


Figure 4-5. Proposed Easement Activities and Areas of Concern (View 4)

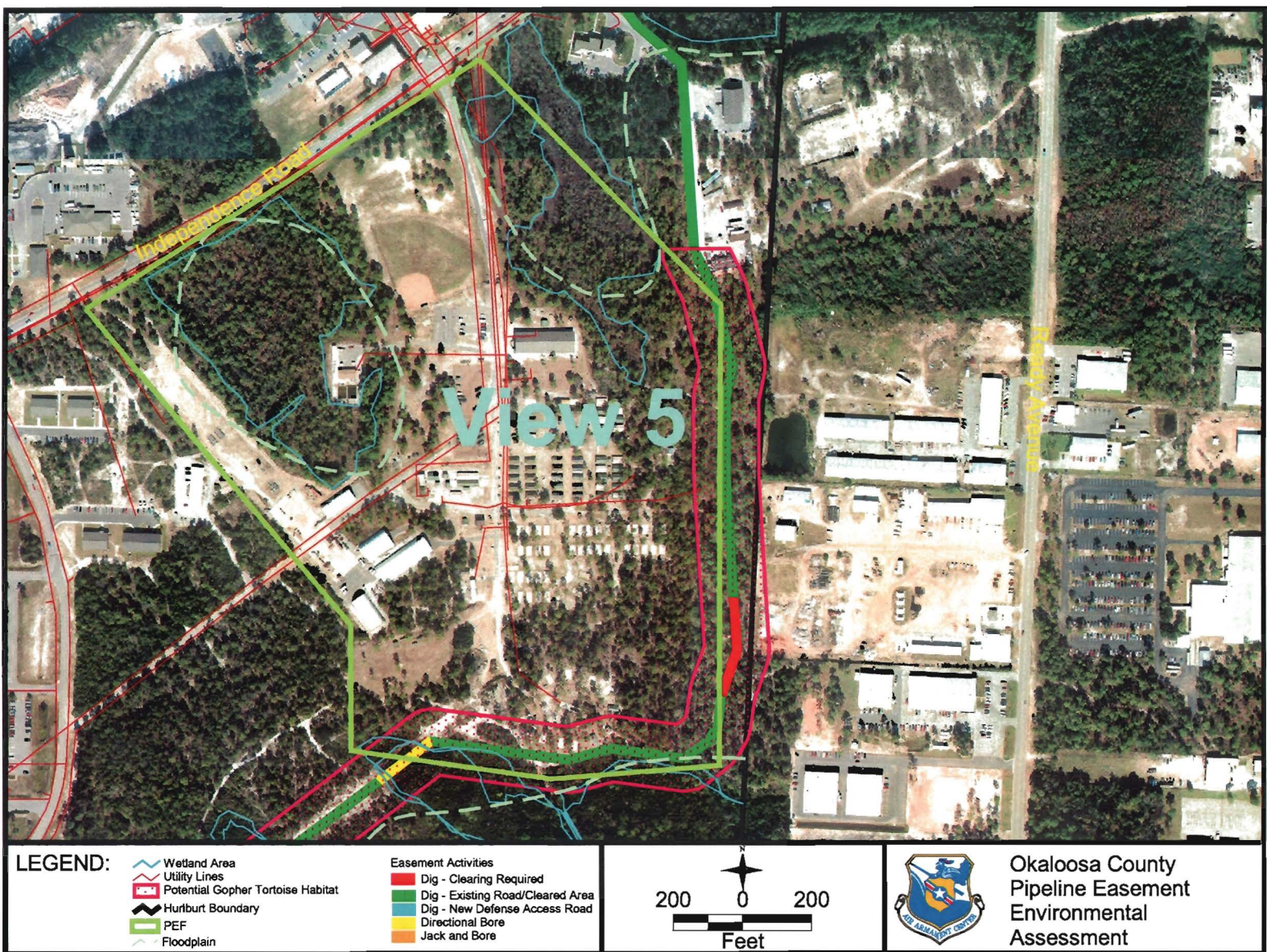


Figure 4-6. Proposed Easement Activities and Areas of Concern (View 5)

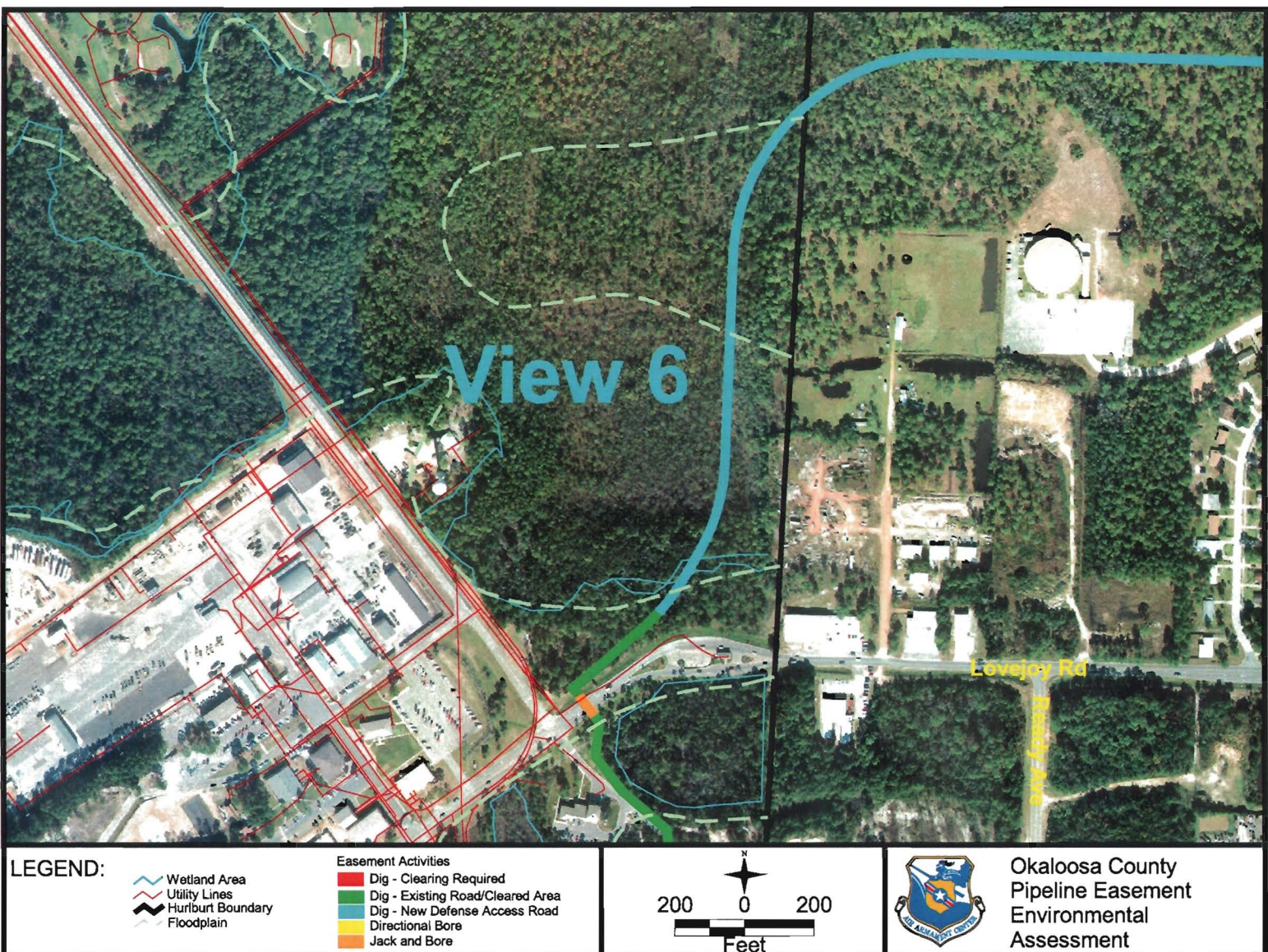


Figure 4-7. Proposed Easement Activities and Areas of Concern (View 6)

No Action Alternative

The easement would not be granted and the pipeline would not be constructed. This may result in continued depletion of water supplies in southern Okaloosa County. As a result, Okaloosa County would need to find an alternative route to establish a water supply connection for southern Okaloosa County.

4.1 PHYSICAL RESOURCES

This section analyzes potential impacts to physical resources such as soils and wetland areas resulting from the Proposed Action. The Proposed Action would not involve activities within surface waters, nor would it involve activities that pose potential adverse impacts to groundwater. As a result, impacts to the quality and utility of surface and ground waters are not anticipated, and further analysis was not accomplished. Impacts to surface water areas from potential erosion are analyzed under the Soils Section.

4.1.1 Soils

Proposed Action

The construction of the proposed pipeline would involve both trenching and boring, as shown in Figures 4-2 through 4-7. Trenching would involve displacement of soils at a depth of about five feet in depth. Displaced soils from trenching would be replaced as construction progresses. To minimize erosion potentials near surface waters and wetland areas during trenching activities, best management practices (BMPs) would be employed, such as use of hay bales or silt fencing. Additionally, disturbed areas would be reseeded with native grasses. In order to prevent the introduction of non-native species, use of weed-free hay bales and weed-free seeds for revegetation should be employed, and equipment should be cleaned prior to entering federal property to prevent the introduction and spread of invasive plant species.

Boring processes would permanently displace subsurface soils. Boring would produce “spoils” consisting mainly of saturated substrates, which would be removed by a vacuum truck and taken to a local landfill. Boring activities would only disturb surface soils at the point of entry and exit. Again, BMPs would be employed at entry/exit points near surface waters and wetland areas to minimize the potential for soil erosion in these areas. These disturbed areas would also be revegetated with native grasses. BMPs would also take into consideration the avoidance of invasive species introduction.

With the implementation of the aforementioned BMPs, adverse impacts to soils from the Proposed Action are not anticipated.

No Action Alternative

The easement would not be granted and the pipeline would not be constructed. Therefore, no impacts would occur.

4.1.2 Wetlands

Proposed Action

As shown in Figures 4-2 through 4-7, the proposed easement crosses jurisdictional wetland areas, as identified by a USACE wetland delineation in 1999. However, engineering design accommodates wetlands by directional boring under delineated areas at a depth of about 25 feet, as shown in the aforementioned figures. Boring at this depth would not have any adverse impacts to the underlying hydrology or geology of the wetland areas. This engineering design was specifically tailored to avoid wetland impacts. As a result, no adverse impacts to identified wetlands within the project area would be anticipated.

Floodplain areas have been identified within the project area, based on the best available Federal Emergency Management Agency (FEMA) data, which was produced in 1997. These areas are shown in Figures 4-4 through 4-7. However, many of these identified floodplain areas are pockets located in areas that have been previously developed. In any event, the pipeline and associated easement will infringe upon these identified floodplain areas. Under Executive Order 11988, Floodplain Management (1977), federal agencies are required to evaluate the effects of potential actions on floodplains. Additionally, EO 11990, Protection of Wetlands (24 May 1977, 42 Fed. Reg. 26961), places additional requirements on floodplains when considered as wetlands.

The floodplain areas identified as potentially impacted by the Proposed Action were not designated as jurisdictional wetland areas by the U.S. Army Corps of Engineers during their latest delineation (conducted in 1998). Additionally, the extent to which disturbance would take place (i.e., trenching, pipeline placement, and refilling and revegetation of the trench) and the total area of the disturbance within identified areas would be minimal (2-3 foot wide trench), and not would result in changes to topography or to the utility of these floodplain areas. Finally, a Finding of No Practicable Alternative (FONPA) was issued for the New Defense Access Road, along which the proposed easement and pipeline would follow through floodplain and wetland areas along the northern portion of the project. The Proposed Action would not contribute to potential impacts outlined in the Defense Access Road EA or the FONPA (provided in Appendix B). Although these factors make adverse impacts to floodplain areas unlikely, further consultation with Eglin's legal office, AAC/JAV, has revealed the need for a FONPA initiation for the Pipeline EA due to the occurrence of activities, however minimal, within floodplain areas.

No Action Alternative

The easement would not be granted and the pipeline would not be constructed. Therefore, no impacts would occur.

4.2 BIOLOGICAL RESOURCES

4.2.1 Habitat Alteration/Direct Physical Impact

This section analyzes potential impacts resulting from habitat alteration and impacts to sensitive, threatened, and endangered species that may be present within or adjacent to the Project Area.

Proposed Action

For the most part, pipeline construction will take place along existing roadways or cleared pathways in disturbed areas throughout Hurlburt Field, thus minimizing habitat disturbance. A minimal amount of tree clearing will be conducted during pipeline installation, as shown in Figure 4-6, on the eastern side of Hurlburt Field because the existing cleared pathway makes two turns in excess of 45-degrees, which would make pipeline installation difficult. Total area to be cleared to accommodate the easement would be approximately 0.2 acres (~8,000 square feet). This area mainly consists of sand pines, with a few scattered younger long-leaf pine and oak trees. This amount is considered relatively insignificant considering the total wooded area and the fact that this area is already moderately disturbed and no adverse impact to the area would be anticipated from the clearing activities.

As described earlier, no adverse impacts to wetland areas would be anticipated due to design engineering considerations implemented to avoid wetlands.

Interviews with Hurlburt Field natural resources personnel identified specific areas within the Project Area along the south side of U.S. Highway 98 wherein avoidance measures must be implemented to avoid impacts to landscape areas. These areas are shown in Figures 4-2 through 4-3. Pipeline construction along these areas must occur outside the drip line of identified trees, and directional boring in these areas will be restricted due to potential impacts to shallow tree root systems. No adverse impacts to these areas would be anticipated provided these guidelines are followed.

No sensitive species have been identified within or adjacent to the project area. The wooded area adjacent to the eastern fence line, as shown in Figure 4-5, was once considered habitat for the federally endangered red-cockaded woodpecker (RCW). However, a recent site visit indicated no presence of the species or active cavity trees, and Hurlburt Field natural resources personnel indicated that the area had not been an active sight for several years. Additionally, during establishment of the PEF facility the USFWS absolved Hurlburt Field from consultation requirements for the RCW in the PEF area due to the absence of the species and isolation of the habitat from existing RCW populations. As a result, the Proposed Action would not require consultation with the USFWS regarding RCWs. The details of this coordination are given in Appendix A. As a result, no adverse impacts to the RCW would occur.

Areas along the easement, particularly throughout the Sandhill habitat shown in Figures 4-4 through 4-6, are considered habitat for the gopher tortoise, a species of special concern in Florida. This species has been identified in the area in the past and relocated to sites on the Eglin Reservation. As a result, a gopher tortoise survey is required by Hurlburt Field natural resources personnel prior to trenching and boring activities in these areas (identified in Figures 4-4 through 4-6). Identified tortoises would likely be relocated in coordination with Eglin AFB natural resources personnel (AAC/EMSN). As a result, no adverse impacts to the gopher tortoise would be anticipated.

No Action Alternative

The easement would not be granted and the pipeline would not be constructed. Therefore, no impacts would occur.

4.3 CULTURAL RESOURCES

Proposed Action

A cultural resource site, ineligible for listing on the National Register, is near the Proposed Action (the outer boundary is approximately 60 feet away). Due to the site's ineligibility status, a consultation with the State Historic Preservation Officer (SHPO) is not required. However, Hurlburt Field has requested that a cultural resources representative be present during excavation in the event that any artifacts were to be uncovered. As a result, the proponent is required to coordinate with Hurlburt's cultural resources personnel prior to project initiation to determine the locations of concern. The other identified cultural resource areas are well away from the project area.

No Action Alternative

The easement would not be granted and the pipeline would not be constructed. Therefore, no impacts would occur.

4.4 HAZARDOUS MATERIALS/WASTE

Proposed Action

For the purposes of this document, hazardous materials/waste refers to IRP and other contaminated sites. No IRP or other contaminated sites were identified within the project area. The nearest documented IRP site is located approximately 1,500 feet away. As a result, no impacts would be anticipated.

No Action Alternative

The easement would not be granted and the pipeline would not be constructed. Therefore, no impacts would occur.

5. PLANS, PERMITS, AND MANAGEMENT REQUIREMENTS

The following is a list of the plan, permit, and management requirements associated with the Proposed Action. The need for these requirements were identified by the environmental analysis process, and were developed through cooperation between the proponent and interested parties involved in the Proposed Action. These requirements are, therefore, to be considered as part of the Proposed Action and would be implemented through the Proposed Action's initiation.

Plans

Phase I Environmental Baseline Study

Permits

Digging Permit

Management Requirements

Land Use

Coordination with utility owners in the vicinity of the Proposed Action is required, as several utility lines have been identified adjacent to the proposed easement.

Soils

Proper BMPs must be implemented during pipeline installation to minimize soil erosion near wetland areas and drainages. Examples include silt fencing and hay bales. All disturbed ground areas must be reseeded with native grasses. Use of weed-free hay bales and weed-free seeds for revegetation must be employed, and equipment would be cleaned prior to entering federal property to prevent the introduction and spread of invasive plant species.

Wetlands

All wetland areas must be avoided through the use of directional boring underneath delineated, jurisdictional wetlands. Coordination with the Natural Resources Manager (16 CES/CEV) is required.

Biological Resources

The Project Area must be surveyed for the presence of the gopher tortoise prior to project initiation. Pipeline installations along the south side of Highway 98 must be conducted outside of the drip line of trees identified by Hurlburt natural resources personnel. Coordination with the Natural Resources Manager (16 CES/CEV, telephone 850-884-7921) for the above mentioned management requirements is required.

Cultural Resources

Coordination with Hurlburt cultural resources personnel is required prior to project initiation.

6. LIST OF PREPARERS

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION (SAIC)

1140 Eglin Parkway
Shalimar, FL 32579

Kevin D. Akstulewicz

Environmental Scientist

Qualifications – B.S. Environmental Science/Policy

Experience – 5 years environmental science

Contribution – Project Manager, Author; GIS

Karen L. Daniels

Environmental Scientist

Qualifications – B.S. Biology; M.S. Fisheries; M.S. Applied Statistics

Experience – 22 years environmental science

Contribution – Technical Reviewer

Eloise Nemzoff

Editor

Experience – 30 years document writing, editing, and production

7. LIST OF CONTACTS

Mr. Joey G. Crews, P.E.

Engineering Manager – Okaloosa County Water and Sewer

Purpose of Contact: Proponent

Mr. Al Jordan

AAC/EMSP, Eglin AFB

Purpose of Contact: EMSP Project Manager

Mr. Gene R. Kearley, P.E.

Engineer – Polyengineering, Inc

Purpose of Contact: Project details

Mr. Phillip Pruitt

Hurlburt Field Natural and Cultural Resources Representative – 16 CES/CEV

Purpose of Contact: Information on Hurlburt Field natural and cultural resources

8. REFERENCES AND APPLICABLE DOCUMENTS

- 16 USC 1531 to 1544; 1997-Supp; Endangered Species Act 1973 (ESA)
- 32CFR Part 989. Code of Federal Regulations, Title 32 National Defense, Volume 6, Chapter VII, Part 989. http://www.access.gpo.gov/nara/cfr/waisidx_01/32cfrv6_01.html - 800
- 40CFR Parts 1500-1508. Code of Federal Regulations, Title 40 Protection of Environment, Volume 28, Chapter V, Parts 1500-1508. http://www.access.gpo.gov/nara/cfr/waisidx_01/40cfrv28_01.html
- Baker, W. W., 1974. Longevity of lightning struck trees and notes on wildlife use. In: *Proceedings, Annual Tall Timbers Fire Ecology Conference*, 22-23 March 1973, Tallahassee, Florida,, No. 13, Tall Timbers Research Station, 497-504.
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- DeLotelle, R. S., R. J. Epting, and J. R. Newman, 1987. Habitat use and territory characteristics of red-cockaded woodpeckers in central Florida. *Wilson Bulletin*, 99(2), pp 202-217.
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- Executive Order 11990, 42 FR 26961, 1977. Protection of Wetlands. Office of the President. United States of America. May 24, 1977. http://www.archives.gov/federal_register/executive_orders/1977_carter.html
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- Miller, R., 2001. Personal communication between Mr. Robert Miller, endangered species biologist (AAC/EMSN) and Mr. Kevin Akstulewicz, (SAIC) regarding role of federal agencies in meeting requirements for state listed endangered species.
- Northwest Florida Water Management District, 1998. *District Water Supply Assessment*. Water Resources Assessment 98-2. June 1998.
- Petrick, C., 1994. Personal communication with Carl Petrick (AAC/EMSN) regarding black bear and gopher tortoise poaching activities at Eglin.
- Pruitt, P., 2002. Personal communication with Philip Pruitt, Biological Scientist, (Environmental Flight of 16 CES Hurlburt Field) and SAIC concerning management of sensitive species at Hurlburt Field.
- U.S. Air Force, 1995. *Permanent Exercise Facility Environmental Assessment*, Hurlburt Field, Florida. April 1995.
- , 1996. *Environmental Baseline Study - Resource Appendices* (SAIC). AFDTC (Air Force Test Development Center), 46 TW/XPE, Range Environmental Planning Office, Eglin Air Force Base, Florida 32542-6808.
- , 1998. *Environmental Assessment for the Defense Access Road: Realign/Relocate Lovejoy Road/East Gate, Hurlburt Field, Florida*. December 1998.

References and Applicable Documents

- , 2002. *Integrated Natural Resources Management Plan*. AAC/EMSN, Eglin AFB, Florida. May, 2002.
- , 2002a. *Hurlburt Field Cultural Resources Management Plan*. Hurlburt Field, Mary Esther, Florida. January, 2002.
- U.S. Department of Agriculture (USDA), 1995. *Soil Survey of Okaloosa County, Florida*. Soil Conservation Service.

APPENDIX A

**HURLBURT FIELD – U.S. FISH AND WILDLIFE
CORRESPONDENCE**



IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Field Office

1612 June Avenue

Panama City, FL 32405-3721

Tel: (904) 769-0552

Fax: (904) 763-2177

April 13, 1995

Lt. Colonel Philip J. Le Grand
Base Civil Engineer
16 SPTG/CE
415 Independence Road, Building 90053
Hurlburt Field, Florida 32544-5244

Re: FWS No. 4-P-95-034
Hurlburt Field Permanent
Exercise Facility (PEF)
Coordination on the Red-cockaded
Woodpecker (RCW)

Dear Colonel Le Grand:

Thank you for your memorandum of April 7, 1995. This response is provided pursuant to the Endangered Species Act of 1973, as amended (ESA) (16 U.S.C. 1531 et seq.).

Your memorandum requests a conclusion to ESA coordination between the Air Force and the Fish and Wildlife Service on the RCW in the PEF area. The rationale for ending coordination described in your memorandum consists of the apparent absence of RCWs in the PEF area for the past several years, deteriorated habitat, the isolation of this habitat from existing RCW populations on Eglin Air Force Base, and the low potential for improving this habitat.

We concur with the Air Force's findings and agree that no additional consultation on the RCW in the PEF area is needed. We also agree with the Air Force's intention to renew ESA coordination with us promptly if RCWs are found in the PEF area.

Please contact Lloyd Stith of this office at extension 234 if additional information or coordination is needed.

Sincerely,

Gail A. Carmody
Gail A. Carmody
Project Leader

LGS/kh/ta2/4p95034.1c1

APPENDIX B

PUBLIC REVIEW PROCESS

Public Notification

In compliance with the National Environmental Policy Act, Eglin Air Force Base announces the availability of the draft Environmental Assessment, draft Finding of No Significant Impact (FONSI), and draft Finding of No Practicable Alternative (FONPA) for RCS 02-002, "Utility Easement and Installation of a Waterline, Eglin AFB, Florida," for public review and comment.

The Proposed Action of RCS 02-002, "Utility Easement and Installation of a Waterline, Eglin AFB, Florida," is to grant a new easement to Okaloosa County for purpose of installing a water pipeline from Mary Esther, Fla., to Florosa, Fla. The proposed easement would be 30 feet in width and approximately 3.5 miles in length. The 30-foot width of easement would allow for future maintenance as well as installation of the pipeline. The pipeline would run from a pump station in Florosa westward along Highway 98, then lead northeast along existing roadways and cleared utility right-of-ways through Hurlburt Field, connecting to water line running north south along Martin Luther King Boulevard in Mary Esther. All wetland areas would be avoided through the use of directional boring, meaning the pipeline would be routed at a depth of nearly 25 feet underground in these areas.

Your comments on this draft EA draft FONSI and draft FONPA are requested. Letters or other written or oral comments provided may be published in the Final EA. As required by law, comments will be addressed in the Final EA and made available to the public. Any personal information provided will be used only to identify your desire to make a statement during the public comment portion or to fulfill requests for copies of the Final EA or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of the Final EA. However, only the names of the individuals making comments and specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the Final EA.

Copies of the draft Environmental Assessment, draft Finding of No Significant Impact (FONSI), and draft Finding of No Practicable Alternative (FONPA) can be reviewed at the Fort Walton Beach Public Library 185 SE Miracle Strip Pkwy, Ft. Walton Beach, Fla. Copies will be available for review from Oct. 29-Nov. 12, 2002. Agencies and the public are invited to provide written comments on issues or concerns they might have with the proposed actions. Comments must be received by Nov. 15, 2002 to be considered.

For more information, or to comment on these proposed actions, contact Mike Spaits, AAC/EM-PAV, 501 De Leon St. Suite 101, Eglin AFB, FL 32542-5133. Or e-mail, mike.spaits@eglin.af.mil.

Northwest Florida Daily News Notice

A public notice was published in the *Northwest Florida Daily News* on 29 Oct 2002 to disclose completion of the Draft EA, selection of the preferred alternative, and request comments during the 15-day pre-decisional comment period.

The 15-day comment period ended on 12 Nov 2002 with the comments required to this office not later than 15 Nov 2002.

No comments were received during this period.



Mike Spaits
Public Information Specialist



Jeb Bush
Governor

Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

David B. Struhs
Secretary

December 3, 2002

Mr. Dan Nichols, GM-14
Chief, Environmental Stewardship Division
AAC/EMS
501 DeLeon Street, Suite 101
Eglin Air Force Base, Florida 32542-5133

RE: U.S. Department of the Air Force – Draft Environmental Assessment – Water Line Easement
and Installation – RCS # 02-002 – Eglin Air Force Base, Okaloosa County, Florida
SAI: FL200210092978C

Dear Mr. Nichols:

The Florida State Clearinghouse, pursuant to Presidential Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§4321, 4331-4335, 4341-4347, as amended, has coordinated the review of the above-referenced environmental assessment (EA).

The Department of State (DOS) concurs with the Cultural Resources information contained in the EA and advises that the applicant must coordinate with the Hurlburt Field cultural resources personnel prior to the start of construction. Please refer to the enclosed DOS comment for details.

The applicant is advised to contact the Department of Environmental Protection, Northwest District Office in Pensacola at (850) 595-8300 regarding permit requirements for the proposed project.

Based on the information contained in the above-referenced EA and the comments provided by our reviewing agencies, as summarized above and enclosed, the state has determined that, at this stage, the above-referenced project is consistent with the Florida Coastal Management Program (FCMP). All subsequent environmental documents prepared for this project must be reviewed to determine the project's continued consistency with the FCMP. The state's continued concurrence with the project will be based, in part, on the adequate resolution of issues identified during this and subsequent reviews.

Thank you for the opportunity to review this project. If you have any questions regarding this letter, please contact Ms. Rosalyn Kilcollins at (850) 245-2161.

Sincerely,

Sally B. Mann, Director
Office of Intergovernmental Programs

SBM/rk
Enclosures

cc: Janet Snyder Matthews, DOS

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 Division of Elections
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 Division of Administrative Services



FLORIDA DEPARTMENT OF STATE
 Jim Smith
 Secretary of State
 DIVISION OF HISTORICAL RESOURCES

MEMBER OF THE FLORIDA CABINET
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 Administration Commission
 Florida Land and Water Adjudicatory Commission
 Siting Board
 Division of Bond Finance
 Department of Revenue
 Department of Law Enforcement
 Department of Highway Safety and Motor Vehicles
 Department of Veterans' Affairs

Ms. Cindy Cranick
 Florida State Clearinghouse Coordinator
 Florida Department of Environmental Protection
 3900 Commonwealth Boulevard, Mail Station 47
 Tallahassee, Florida 32399-3000

November 6, 2002

RE: DHR No. 2002-09867 / Received by DHR: October 16, 2002
 SAI #: 200210092978C / RCS 02-002
Draft Environmental Assessment – Utility Easement and Installation of a Water Line
 Eglin Air Force Base, Okaloosa County, Florida

Dear Ms. Cranick:

Our office received and reviewed the above referenced project in accordance with Section 106 of the *National Historic Preservation Act of 1966* (Public Law 89-665), as amended in 1992, and 36 *C.F.R., Part 800: Protection of Historic Properties*. The State Historic Preservation Officer is to advise Federal agencies when identifying historic properties (listed or eligible for listing, in the *National Register of Historic Places*), assessing effects upon them, and considering alternatives to avoid or minimize adverse effects.

We have reviewed sections 3.4 and 4.3, both dealing with Cultural Resources, of the referenced environmental assessment. Based on the information provided, this office concurs with the environmental assessment and notes that Hurlburt Field has requested that a cultural resources representative be present during the excavation in the event that any artifacts are discovered. As a result, the proponent is required to coordinate with Hurlburt's cultural resource personnel prior to project initiation to determine the locations of concern.

If there are any questions concerning our comments or recommendations, please contact Sarah Jalving, Historic Sites Specialist, by electronic mail at sjalving@mail.dos.state.fl.us or at 850-245-6333 or SunCom 205-6333. Thank you for your interest in protecting Florida's historic properties.

Sincerely,

Janet Snyder Matthews, Ph.D., Director, and
 State Historic Preservation Officer

Xc: Jasmin Raffington, FCZMP-State Clearinghouse

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

☐ Director's Office
 (850) 245-6300 • FAX: 245-6435

☐ Archaeological Research
 (850) 245-6444 • FAX: 245-6436

☒ Historic Preservation
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☐ Palm Beach Regional Office
 (561) 279-1475 • FAX: 279-1476

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